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ORIGINAL COMMUNICATIONS.

On the use of Anæsthetics in Midwifery. By J. Y. Simpson, M. D., of Edinburgh.

[Concluded from page 218.]

4. *You object to anæsthesia in labour, because the mother in escaping by it from the "pangs and agonies of labour" may in a few rare cases be made to encounter danger to her own life.*

"Should I (you observe) exhibit the remedy for pain to a thousand patients in labour, merely to prevent the physiological pain, and for no other motive, and if I should, in consequence, destroy only one of them, I should be disposed to clothe me in sackcloth and cast ashes on my head for the remainder of my days. What sufficient motive have I to risk the life or the death of one in a thousand in a questionable attempt to abrogate one of the general conditions of man?" Let me add, that I have seen this argument of yours already repeated from your letter, and strongly insisted upon by the opponents of anæsthesia in this country.

And, indeed, in a new practice, such as that of anæsthesia, and with which the mind is not yet at all familiarized, the above forms one of that kind of apparently strong statements which it is impossible to answer directly, or indeed by any other way than by taking, as I have already said, a corresponding illustration and simile

from some other matter with which the mind is already familiarized. Let us for a moment longer, then, adhere to the familiar comparison which I have already taken up, under the last head, between the physiological function of human parturition and the physiological function of human progression. Suppose, then, that you and I were standing at the Philadelphia station on the first day of opening of the railway to Baltimore or New York. I wish the passengers to Baltimore or New York, or the shorter or intermediate stations, to proceed thither by railway; but you argue with them, like President Jefferson, that "progression is the culminating point of the human somatic forces," and that "walking is a desirable, salutary, and conservative manifestation of life force," and that progression being a "physiological function," and fatigue a physiological pain, they ought to proceed on foot. I say "No." Place yourself in a railway carriage, and thus eschew and obviate all the great fatigue and useless over exertion of foot travelling. Then comes that answer and argument of yours which I have quoted, and which runs as follows; "But should I exhibit, sir, the remedy for fatigue (*a railway carriage*) to a thousand travellers, merely to prevent the physiological exertion and fatigue of walking, and for no other motive, and if I should in consequenee destroy only one of them, I should feel disposed to clothe me in sackcloth and cast ashes on my head for the remainder of my days. What sufficient motive have I had to risk the death of one in a thousand in a questionable attempt to abrogate one of the general conditions of man, viz., his power of walking."

I shall not stop to enquire whether among our supposed lady passengers or patients (unused as most of them are either to long pain or long walking) more than one in a thousand would not be worn out and destroyed by taking the journey on foot. A less proportion would, I believe, be found to be ultimately destroyed by the perils and dangers of the journey by railway, than by the exertion and fatigue of the journey on foot, and the walk would shake and damage, both temporarily and permanently, many more constitutions than the railway carriage. I have a firm conviction, that on the great scale, there would be found a more absolute saving of human life and human health by adopting the means invented by art than the means provided by nature. And I most firmly believe that yet a similar difference will be found to hold good between

the two corresponding practices of allowing women to pass through labour afflicted with all their usual physiological pangs and agonies, and carrying them through that process without being subjected to the endurance of these pangs and agonies.

But I proceed to remark, that if your supposed theory with regard to the function of parturition were carried out in regard to the other functions of the human body, it would produce a vast and mighty revolution in the practices of civilized life. Follow it out, for instance, with regard to any one of them, as for example with regard to the one we have already spoken of, viz. progression, and see what would be the result. Ever and anon, our newspapers contain paragraphs telling us of one or more human lives being lost by collisions on railways, explosions on steamboats, upsettings of stage coaches, &c. Consequently, according to your doctrine, the featherless biped, pedestrian man, should no longer, when travelling, fly in railway cars, ply in steamboats, ride in coaches, &c., for these are evidently all so many questionable attempts to abrogate, what you call "one of the general conditions of man, viz., his original pedestrianism."

In the great government and police of nature, disease and death are among the most certain and "general conditions of man." If your theory were true, the practice of medicine itself should, I fear, be at once and summarily abandoned, for perhaps, in your own language, it is at least "a qustionable attempt to abrogate one of the general conditions of man," and I am sure you will agree with me that in this questionable attempt "human lives are often lost from the mistakes, or the passiveness, or the want of knowledge and skill on the part of the physician. In England and Wales in 1840, there were, according to the Returns of the Registrar General, above 100 persons publicly and officially reported as having died from the effects of one drug alone—opium. But would this be any reason or any ground of reason for abandoning in medicine the use of opium, perhaps in itself the most valuable of all the remedies in our Pharmacopœia. Would this be any adequate argument for refusing to relieve by a dose of opium the next appropriate case of pain that you are called to? Or because chloroform or ether in a very rare case now and again produces deleterious or more fatal consequences, should we refuse in a thousand other persons to mitigate and annul their agonies by its use?

In your esteemed letter to me you quote some remarks from that celebrated old work—Raynolde's Birthe of Mankinde—the first book on midwifery printed in English. Look at the Prologue to the work. It is in reference to the very subject we are discussing; whether the rare accidents, from abuse or otherwise, to which any good gift may occasionally subject those who use it, should be a reason for repudiating the general use of that gift. "There is not anything," says Raynolde, "so absolute and perfect but by the occasion of the abuse thereof at one time or other, may, and doth ensue, great damage and danger to mankinde." He instances fire and water, "two right necessary elements to the use of man, without the which he could not live;" yet sometimes "by fire hath bin consumed and devoured whole cities and countries; by water swallowed and drowned infinite men, shippes, yea and whole regions. Againe, (he continues,) meate and drinke to the moderate users thereof, doth minister and maintain life; and contrary to the unmeasurable and unsatiate gourmands and gluttons it hath full many times brought surfeit and sickness, and at the last death. But (he argues) should men for the avoyding of the aforesaid inconveniences and for the reasons above said, condemne and banish fire and water or forsake their meate and drinke? No. *It were but madnesse once to thinke it.*"

Before passing from these your supposed dangers of anæsthetics, let me add two remarks. 1st. I do believe that if improperly and incautiously given, and in some rare idiosyncrasies, ether and chloroform may prove injurious or even fatal, just as opium, calomel, antimony, and every other strong remedy and powerful drug will occasionally do. Drinking cold water itself will sometimes produce death. "It is well known that there are *many* cases," says Dr. Taylor in his excellent work on Medical Jurisprudence, "on record, in which cold water swallowed in large quantity and in an excited state of the system, has led to the destruction of life." (p. 8.) Should we therefore never allay our thirst with cold water? What would the disciples of Father Mathew say to this? But 2dly. You and others have very unnecessary and aggravated fears about the dangers of ether and chloroform, and in the course of experience you will find these fears to be perfectly ideal and imaginary. But the same fears have in the first instance been conjured up against almost all other innovations in

medicine, and in the common luxuries of life. Revert again to our old simile regarding travelling. Cavendish, the Secretary to Cardinal Wolsey, tells us in his life of that prelate, that when the Cardinal was banished from London to York by his master, that regal Robespierre, Henry VIII., many of the Cardinal's servants refused to go such an enormous journey, for they were (says Cavendish) "loath to abandon their native country, their parents wives and children." The journey which can now be accomplished in six hours, was considered then a perfect banishment. We travel now between London and Edinburgh (some 400 miles) in twelve or fourteen hours. A century ago, the stage coach took twelve or fourteen days. And in his life of Lord Loughborough, Lord John Campbell tells us, "that when he (the biographer) first travelled from Edinburgh to London in the mail coach, the time was reduced to three nights and two days; but he adds, this new and swift travelling, from the Scotch to the English capitol, was wonderful, and I was gravely advised (adds Lord John) to stop a day at York, as several passengers who had gone through without stopping had died of apoplexy from the rapidity of the motion." (*Lives of the Lord Chancellors*, vol. vi. p. 50.)

Be assured that many of the cases of apoplexy, &c., &c., alleged to arise from ether and chloroform, have as veritable an etiology as this apoplexy from rapid locomotion; and that a few years hence they will stand in the same light in which we now look back upon the apoplexy from travelling at the rate of ten miles an hour. And as to the supposed great moral and physical evils and injuries arising from ether and chloroform, they will bye and bye sound, I believe, much in the same way as the supposed great moral and physical evils and injuries arising from using hackney coaches, as all were seriously described by Taylor, the water-poet two or three centuries ago, when these coaches were first introduced. In his diatribe against hackney coaches, Taylor warned his fellow creatures to avoid them, otherwise, to quote his own words, "they would find their bodies tossed, tumbled, rumbled, and jumbled without mercy." "The coach (says he) is a close hypocrite, for it hath cover for knavery; they (the passengers) are carried back to back in it like people surprised by pirates, and, moreover, it maketh men imitate sea-crabs in being drawn sideways," and altogether "it is a dangerous carriage for the com-

monwealth." Then he proceeds to call them "hell carts," &c., and vents upon them a great deal of other abuse very much of the same kind and character as that lavished against anæsthetics in our own day.

In the course of your remarks you imply, I think, though you nowhere explicitly state, another objection to anæsthetics in midwifery, viz :

5. *You object to anæsthesia in labour because you do not consider that the mother encounters danger to her health or life from the endurance of the pains.*

"I have been accustomed (you observe) to look upon the sensation of pain in labour as a physiological relative of the power or force, and, notwithstanding I have seen so many women in the throes of labour, I have always regarded a labour-pain as a most desirable, salutary conservative manifestation of life-force."

If you hold, as your language appears to me to imply, that the sensation of pain, even when, as in labour, the degree of the pain is "absolutely indescribable," has no morbid or deleterious influence upon those who endure it, then I most decidedly disagree with you. On the contrary, I sincerely believe that the human constitution is so constituted that it cannot endure pain, particularly when that pain is long in duration or severe in degree, without being more or less affected and injured by it. I know of many medical and obstetric authors from the time of Ambrose Paré, down to the time of Travers, Gooch, Alison, Burns, &c., who have stated and explained the common and hitherto unchallenged opinion of our profession in all ages, that pain was, in itself, deleterious and destructive, causing depression of the heart, syncope, and even when in excess producing speedy and sudden death. But till the late discovery in your own country, of the possibility of annulling the pains of surgical operations by the inhalation of ether, I know of no writer in medicine or surgery or in midwifery, who held that pain when "absolutely indescribable" in degree, was a matter of no importance in regard to the life or health of the sufferer, and should not be relieved even when we had the complete power of relieving it.

If the mere pain of the labour were, as you state, a "desirable, salutary, and conservative manifestation of life-force," its long continuance, the very length of it, would ensure more certainly

the life and health of the patient than its shortness. Anything "salutary and conservative" to the constitution, should manifestly be safe in proportion to the length and dangerous in proportion to the shortness of its duration. But as far as regards the life and health of the mother, the pain of labour is perfectly the reverse of all this. It is safe in proportion to its shortness, and dangerous in proportion to its length. In the Dublin Hospital, the tables of which afford the only data on this point that I know to refer to, when the women were four hours in labour, more subsequently died than when their pain did not exceed two hours; of those that are eight hours in labour, more subsequently died than of those that were four hours ill; of those that were twelve hours in suffering, more subsequently died than of those that were eight, and so on in a regular progression. The longer this supposed "salutary and conservative manifestation of life-force," as you term it, the greater became the mortality, so that in the long run the maternal mortality was fifty times greater among the women that were above thirty-six hours ill, than among those who were only two hours in labour; one in every six of the former dying in child-bed; and one only out of every three hundred and twenty of the latter.

Some time ago I published a long series of statistics tending to show, that out of a large collection of cases of the same operation performed with and without anæsthesia, those who were operated on under anæsthesia, and consequently without the usual sufferings, recovered in a much larger proportion than those who had the same operation performed without anæsthesia, and whose constitutions were subjected to the endurance of the usual pains and agonies of the surgeon's knife.

The same result holds good, I believe, in midwifery as in surgery. Save the maternal constitution, either by natural or artificial anæsthesia, from the endurance of the pains connected with parturition, and you will enhance both the chances of her recovery and the facility of it. Among your red Indian and other uncivilized tribes, the parturient female does not suffer the same amount of pain during labour as the female of the white race; and in consequence of this escape, they recover far more rapidly from the effects of parturition, nor are fatalities at all common among them. So easy is the convalescence among uncivilized tribes, that Strabo, Marco Polo, and other historians and travellers, tell us of whole

communities in which the husband immediately went to bed upon the birth of a child, and the wife watched and nursed him. "They that wrote the history of America (says Guillemeau) tell of the women in that country, that as soon as they be delivered, they presently rise up and lay their husbands in their roome, who are used and attended like women in child-bed."

Among the patients who have been delivered in Scotland under anæsthesia, the rapidity of the stage of convalesence has, as a general rule, been diminished in a degree that seems often to surprise the patient herself, as much as her escape from the labour pains themselves. Many of my obstetric brethren have remarked this circumstance to me. In fact, on awaking after delivery, the patient does not encounter and endure the usual feelings of exhaustion and fatigue. Some have declared to me that they have felt as if they had awoke from a refreshing sleep. And when we consider the capabilities for the enduring of suffering and exertion among the class of persons in civilized life upon whom you and I attend, perhaps the propriety of employing anæsthesia during labour may appear more evident. Unaccustomed by their mode of life to much pain and fatigue, patients in the higher ranks of life are not fitted to endure either of them with the same power or with the same impunity as the uncivilized mother, or even as females in the lower and hardier grades of civilized society, and hence there is the greater propriety and necessity in the physician employing all the means of his art so as to save them, as far as possible, from their sufferings. To illustrate the point, let us revert again to our old comparison between the physiological functions of progression and parturition. Let us compare, for a moment, our ideas of the effects of fatigue from walking, and of pain from parturition, upon the female constitution; and surely the comparison is not an unfair one for your views, as far as the severity of the effects of the two influences, physical fatigue and physical pain, are concerned, for surely the effects of pain, of absolutely indescribable pain, should be greater upon the constitution than mere muscular fatigue. Suppose, then, that our patients at the end of the ninth month of pregnancy, had to walk on foot a continuous journey of one, two, three, six or a dozen or more hours' duration, that is of five, ten, twenty, thirty miles or upwards, instead of passing through a continuous journey of recur-

ring labour pains of the same duration, the pains gradually becoming stronger, and latterly becoming "absolutely indescribable and comparable to no other pains;" what would be the result with say one hundred ladies of the upper classes of society? Some of them might be little or not at all affected by the journey, others, weak perhaps when they began, would suffer more or less severely from it. Not a few would be inclined sooner or later to stop and beseech you, if you were the medical attendant upon them, to save them from further exertion and fatigue, by allowing them to be carried or coached the required distance. In answer to their solicitations would you console them by telling them that, after all, progression was a "conservative manifestation of life-force," and free from danger, or would you take the other view and give them means of travelling the required distance by carriage or rail?

I am sure you would have recourse not to the former but to the latter, for you would fear and dread the effects of fatigue upon the fragile constitutions of your lady patients. And I repeat, that certainly the effects of the endurance of pain are as great, if not greater upon the constitution than the effects of the endurance of fatigue. But if you would allow your patients to ride the supposed journey, instead of unnecessarily forcing and compelling them to walk it on foot; equally I think should you allow them to escape what you term the "pangs and agonies" of travail, by saving them by chloroform or other anæsthetic agents during their travail, from all the unnecessary endurance of these pangs and agonies.

You state, "I have not yielded to several solicitations as to the exhibition [of chloroform] addressed to me by my patients in labour." If, when driving out into the country, you perchance met one of your fair patients a few miles from Philadelphia, walking homeward, but so tired and way-worn, that every five or ten minutes she stopped and groaned for fatigue "absolutely indescribable and comparable to no other fatigue," I am sure you would consider yourself bound on the principles of common humanity not to withstand her "solicitations" to be driven home in your carriage, and thus relieved of her present anxiety and suffering. And I cannot see why, if you do this, (and who would not do it?) to relieve a patient from the mere effects of fatigue, you could refuse to relieve the same lady when in the "pangs and agonies of

travail," from the endurance of pains which, in your own words, are "absolutely indescribable and comparable to no other pains."

"Perhaps (you observe) I am cruel in taking so dispassionate a view of the subject." Of course it would ill become me to pass any such judgment upon you. But I feel this, that you and I and other teachers of midwifery are placed, in reference to this question, in a position far more fearfully responsible than ordinary medical practitioners. The ordinary obstetric practitioner has little or no power, except over the relief or the perpetuation (according as he may choose it) of the sufferings of his own immediate patients. But you and I, as obstetrical teachers, may, through our pupils, have the power of relieving or of continuing the sufferings of whole communities. If, perchance, you persist for some years longer in your present opinion, it will have the effect of inflicting a large amount of what I conscientiously believe and know to be altogether unnecessary agony and suffering, upon thousands of our fellow beings. If you review and alter your opinions, (which I earnestly hope you will do,) and make yourself sufficiently acquainted with the peculiarities in the mode of action, in the mode of exhibition of chloroform during labour, a vast proportion of human suffering may, even within the next few years, be saved by your happy instrumentality and influence.

Feeling, as I do, deeply, the great responsibility in this respect of your situation and of mine, I trust you will kindly pardon and excuse me, if, anywhere in the preceding pages, I may have appeared to defend my views with too much earnestness. If I had to rewrite or revise the observations, I would perhaps have stated them more accurately, but I must send them as they are. And along with them I beg to send also the most sincere esteem and reiterated respects of

My dear sir,

Yours very faithfully,

J. Y. Simpson.

To Dr. Meigs, Professor of Midwifery, Philadelphia.

*On the Toxical and other Properties of "A substance analogous to Gun Cotton."** By William F. Jackson, M. D., of Brunswick, Maine.

During the last few years there have been several very valuable discoveries, but perhaps no one of them has created more excitement among chemists of every country than that of gun cotton by Schönbein in 1846. No sooner had it been announced by him than various series of experiments were instituted, some of which resulted in the discovery of new substances, the value of which time alone can show. It is my purpose to call your attention to one of these substances discovered by Mr. Sobrero, a distinguished Spanish chemist, and announced by him in the "Comptes Rendus" for February 1847. The article was copied into the "London Chemical Gazette," and attracted the attention of Mr. Morris Davis, an operative chemist of this city,† who was the first in this country to prepare and experiment upon it. It has also been prepared and experimented upon by one or two others: and all concur in saying that it is a most powerful excitant, and capable of producing the most injurious results even when taken in very minute doses How valuable it may prove as a therapeutical agent I am not prepared to say; but when we consider how many of our most valuable remedies are the most virulent poisons, we have a right to infer that this may not be without its uses. Should it not prove valuable as a medicinal agent, it is certainly, in a physiological point of view, worthy of an extended and careful examination.

Mode of Preparation.—The mode of preparing this substance given by Mr. Sobrero is as follows: "When a mixture of 2 vols. of sulphuric acid of 1.83 and 1 vol. of nitric acid of 1.43 is poured into syrupy glycerine, a very lively oxidation ensues, the product of which I have not ascertained; if, on the contrary, the above mixture of the two acids is placed in a freezing mixture, and glycerine poured into it, agitating to avoid all elevation of temperature, the glycerine quickly dissolves without any perceptible reaction: if the mixture be now poured into water, an oily substance heavier than water subsides to the bottom of the vessel;

* Extracted from an Inaugural Dissertation recently presented to the Faculty of Jefferson Medical College.

† Philadelphia.

when it is washed with a considerable quantity of water, to free it entirely from acids, without any loss, as it is quite insoluble in that menstruum. When well washed, it is wholly dissolved in alcohol, and precipitated again by water, or dissolved in ether, and the solution left to spontaneous evaporation, when it is obtained in a state of perfect purity. It is readily freed from water by keeping it for a few days in vacuo over sulphuric acid.

"In this state the body has the appearance of olive oil coloured slightly yellow; it has no odour; its taste is sweet, pungent and aromatic; but in making this experiment great precaution should be used, for a very minute quantity held upon the tongue produces a violent headache for several hours. The effect upon the human body was experienced by several persons in my laboratory, and I have frequently felt its effects myself."

As far as my experience goes, it is not necessary that the acids shall be of the specific gravities given above, for in my experiments I used the Nordhausen sulphuric acid of 1.86 and nitric acid of 1.48, and succeeded perfectly. I am well satisfied that it matters little what the strength of the acid may be, provided that it is *strong enough*. The greatest difficulty which I met with was from the glycerine. In my first experiments I failed in every instance, in consequence (as I think) of the oxide of lead which had not been precipitated, and of the large amount of water which was combined with the glycerine. After having got rid of the lead by precipitation, and having evaporated the glycerine to one half, I found no difficulty, though great care was necessary to prevent the rising of temperature. Whenever the temperature rises above a certain point, an intense chemical action takes place, and a dense cloud of nitrous acid fumes is thrown off. Whenever this *improper* action takes place, the capsule will be found to contain a substance resembling molasses both in colour and consistence, soluble in alcohol and water, and having a sour and bitter taste, and an odour resembling somewhat that of burnt sugar. In one or two instances, the diminution of the nitrous acid fumes was preceded by a distinct explosion, and in one instance the contents of the capsule were thrown in all directions.

The acids are to be poured into the capsule, to be agitated for a few moments so as to mix them intimately, and allowed to stand until they are cooled down to the proper point. The prepared gly-

cerine is then to be added *slowly*, and the mixture must be *constantly* stirred. It gradually becomes thicker, and soon resembles honey both in colour and consistence. It is now to be poured into water, and the substance sought for will, after a short time, be found in small opaque globules, resembling very much the globules of oil in an emulsion, at the bottom of the vessel. After having been thoroughly washed it may be freed from water by means of the sulphuric acid, as recommended by Mr. Sobrero, or by means of a test tube having a very small aperture at the bottom; the substance being heavier than water, will of course pass off first. Care must be taken to prepare it only in small quantities, as explosions are very liable to occur, causing, of course, loss both of time and materials.

What the precise chemical nature of this substance may be, I am at present unable to state. My first impression was, that it was a nitro-sulphate of glycerine, but I am now convinced that the glycerine undergoes a decomposition, and that a new substance is formed from the combination of its elements with those of the acids.

Toxical effects.—On account of the unpleasant effects which this substance produces, it is almost impossible to find persons willing to make experiments with it, and even *medical students* are not over anxious to "gratify their curiosity." I have endeavoured, while making my experiments, to avoid, as far as possible, all extraneous influences, and to make allowances where such might occur; but the position of a medical student is certainly not the one best calculated to conduct a series of experiments requiring so much care and precaution.

In the majority of trials I have used one-third or one-half of a drop of the alcoholic tincture, but occasionally I have increased the dose when I wished to get more decided effects. It is safer, however, to use small doses, and repeat if necessary, for the effects produced by large doses are both unpleasant and dangerous.

February 18*th.*—Pulse at sixty-five beats per minute, and body free from any unpleasant sensations—took one-third of a drop of the alcoholic tincture. In thirty seconds the pulse had risen to eighty beats per minute. Disagreeable sensation of fulness in the forehead. In thirty seconds more the pulse was at ninety, and the pain in the forehead quite severe. No other symptoms were

developed, and in half an hour the pulse had returned to seventy beats per minute, and the pain was entirely gone. I then repeated the dose. The pulse rose as before to ninety-five, the pain in the head became quite severe, and a sensation as if the eye-balls were being pushed out was produced. When the symptoms began to abate I again repeated the dose. The pulse *instantly* rose to one hundred and twelve. Pain in the head intense. Eyes protruding and injected, scintillations as in head affections caused by disordered stomach. Fulness at the base of the brain, and violent throbbing of all of the arteries of the head and neck. Laboured action of the heart with a peculiar sense of oppression. I went into the open air, and in a short time the most striking symptoms disappeared, leaving only a sense of languor and an unpleasant sensation about the heart.

February 20th.—The above experiment was repeated but no new symptoms were produced. The disagreeable feelings about the heart, however, were somewhat aggravated, but soon passed off.

February 22d.—Having recovered entirely from the former experiments, I determined to make another trial, using a larger dose, however, than I had done heretofore. The pulse was at sixty-six beats per minute and perfectly regular. I took *one drop* of the tincture, and the pulse in less than a minute rose to one hundred and twenty-four beats per minute. It was hard, distinct, and almost incompressible. The heart laboured violently and a lancinating pain passed from the region of the heart to the back between the shoulders. The pain in the head was almost unendurable, particularly in the forehead, and the disagreeable feelings at the base of the brain were far more severe than I had yet known them. Eyes were injected and seemed to protrude, the pupils were somewhat dilated. Flashes of light were almost continuous and vision of course indistinct. The tongue and mouth burned, and the former felt swollen and raw, and was affected by spasmodic twitchings. Respiration was not impeded, though there was a sensation of constriction about the chest. In two minutes the pulse had fallen to one hundred beats per minute, and was decidedly intermittent. The symptoms gradually disappeared, and in half an hour no positively disagreeable sensations remained.

The same sensation of weariness and oppression about the heart was noticed as in former trials.

I have also the results of several other experiments, but as they do not differ materially from those given above, I do not think it necessary to detail them.

February 24th.—Experiment upon a cat. In attempting to put this preparation, in substance, into her mouth I accidentally touched the glass rod upon the end of her nose ; immediately her head was thrown backwards upon her neck and maintained there. Saliva flowed freely from her mouth, which was open and the tongue protruding. The eyes were glassy and fixed, and the pupils very much dilated. She walked *backwards*, but with great difficulty, as her limbs were extremely rigid. The pulse was very rapid, but as I had neglected to count it before commencing the experiment, I could not tell how much it had been affected. As soon as she began to recover, I put about *three* drops of this substance into her mouth. There was no effort to move after a few seconds; the limbs were perfectly paralyzed and rigid. The contractions of the heart could not be counted, though they could be distinctly felt. Respiration was very difficult and rapid. The eyes actually stood out of the head, and the iris was scarcely visible. In about two minutes from the time in which I put the poison upon her tongue she ceased to breathe, though the heart beat a few seconds longer. Spasmodic contractions of the legs occurred for some time after both respiration and circulation had ceased.

I intended to make an extended series of experiments upon animals, but circumstances beyond my control have hitherto prevented my doing so. At some future time, however, I hope to be able to give a more satisfactory account of the effects of this substance ; sufficient has been done, however, after having made all due allowance, to show the great power, and the rapidity of its action.

In its toxical effects it resembles very nearly the aconitum napellus, but is far more rapid in its action, if not more fatal in its results.

Whether or not this substance will prove valuable in the treatment of disease remains yet to be seen, but I am well convinced that it is destined to occupy no mean position in the list of therapeutical agents.

Remarks on Lupulin as an Anaphrodisiac. By Wm. Byrd Page, M. D., Consulting Surgeon to the Philadelphia Hospital, Blockley.

In offering to the medical profession the application of a means of relief for any affection, the practitioner does nothing more than a self-imposed duty requires.

Actuated only by such a motive, I propose the administration of Lupulin as an anaphrodisiac, a use to which, I believe, the article has never before been applied as a therapeutic agent.

The hop has long held a prominent position in the materia medica as a tonic, and as a narcotic and calmant, in many disordered conditions of the nervous system. Its different preparations have been administered internally, and applied externally, in affections calling for the exhibition of medicines for the production of sleep, the relief of pain, and for quieting unusual nervous excitement, when the more powerful and usually more certain medicines of the same class, have been deemed inadvisable from some peculiar circumstances.

The principal virtues of the hop are believed to reside in Lupulin, which is described as occurring as a secretion in the form of granules, on the under surface of the scales or strobiles of the Humulus lupulus.

Lupulin was first described, and its properties made known, by Dr. A. W. Ives, of New York, though some notice had been previously taken of it. According to the U. S. Dispensatory, " it is obtained, separate, by rubbing or threshing and sifting the strobiles, of which it constitutes from one-tenth to one-sixth by weight. It is in the state of a yellowish powder, mixed with minute particles of the scales, from which it cannot be entirely freed when procured by a mechanical process. It has the peculiar flavour of hops, and appeared to MM. Lebaillif and Raspail, when examined by the microscope, to consist of globules filled with a yellow matter, resembling in this respect the pollen of vegetables. It is inflammable, and when moderately heated becomes somewhat adhesive."

It is kept by most apothecaries, and can be procured in a few moments by the above simple process.

More than two years since I introduced Lupulin to a limited extent into the Philadelphia Hospital, (Blockley,) as a remedy to prevent nocturnal erections in different forms of acute venereal disease, and have subsequently used it sufficiently often in my practice, to justify its presentation to the medical profession as a very good article for the purpose, one of great efficacy, and entirely free from many of the objections to the preparations of camphor, opium, dulcamara, stramonium, &c., which have hitherto been principally relied on.

One of the most painful and troublesome attendants upon gonorrhœa, is chordee, brought on by nocturnal erections, the occurrence of which has been completely prevented by the administration of Lupulin at bed time.

In acute gonorrhœa, it not only prevents erections and consequently chordee at night, but it also seems to exercise a very soothing effect on the inflamed urethra, and to facilitate the operation of medicines for the cure of the disease.

Relief from the troublesome pain in the perineum in chronic gonorrhœa, and during the treatment of stricture with the bougie, has been obtained by the administration of Lupulin alone.

In the treatment of chancres on the penis, the process of healing is often interfered with, and the efforts of nature and the surgeon placed somewhat at defiance by the occurrence of erections, when the patient is warm in bed, which distend the parts and lacerate the edges of a weak or imperfectly formed cicatrix. In this disease the Lupulin has been used with the desired effect.

I have also used it after the operation for phymosis, with the effect of preventing the occurrence of erections during the process of the cicatrization of the incision. Its use may doubtless be adopted with the same intention after any other operation on the penis.

The Lupulin has been administered for nocturnal seminal emissions, and although it does not claim a curative power in this distressing affection, it will prevent their occurrence so long as the patient is freely under its influence, and will give the practitioner an opportunity to prosecute any treatment which he may adopt, with an increased prospect of success, from the interruption to the habit of the disease, and from the prevention of erections when topical applications are made to the urethra. I cauterized the

prostatic and membranous portions of the urethra, with Lallemand's instrument, for a gentleman labouring under this disease, and gave Lupulin to prevent erections, which often harass the patient after this simple operation, with complete success.

My own experience in the use of the remedy has been corroborated by that of other practitioners, who have given it at my suggestion. Dr. F. G. Smith administered it to a patient suffering from spermatorrhœa, and prevented the recurrence of the emissions so long as the effect of the remedy was kept up. He has also given it to a gentleman under his care with chancre. Dr. Edward Hartshorne reports to me a case which establishes its efficacy beyond a doubt, in suppressing the venereal appetite. A healthy negro man confined in the Eastern Penitentiary, practised onanism to such an extent, as to bring on an attack of insanity. The mania was relieved by active treatment, and the usual means were applied for the suppression of what seemed his ruling passion, without effect. He became conscious of his unfortunate condition, and of its cause, and confessed that he passed his time when not watched, in this self-debasing, and health-destroying amusement. He entreated the Dr. to give him something " to take his courage down." Lupulin was administered to him in two grain doses, several times in the twenty-four hours, and he now states that " it is all gone," and that he is no longer troubled with his hitherto unconquerable desire.

The dose of Lupulin is from 5 to 10 grains, to be repeated as occasion requires. The latter dose rarely requires a repetition during the night. It may be given in powder or in pill. It produces no headache, does not constipate, or give rise to nervousness or any other unpleasant consequence.

Necroscopic Examination of a Case of Hydrocephalus, with hypertrophy of the wall of the Cranium. By E. Mason, M. D., of Wetumpka, Alabama.

Black, male—æt. 12 years—post mortem ten hours after death. The following table shows the thickness of the bones that were divided in the examination.

Frontal,	-	-	-	$1\frac{1}{8}$ inches.
Occipital,	-	-	-	$1\frac{3}{8}$ "
Parietal,	-	-	-	1 "
Temporal,	-	-	-	$\frac{1}{2}$ "

The cellular structure, composing the middle table of the wall of the cranium, was filled with coagulated blood; the internal table was in some places entirely destroyed.

The meninges of the brain were so closely adherent that they could not be separated, and there were no blood vessels traceable on them.

Substance of the cerebrum was of a natural consistence, but preternaturally white; indeed it seemed entirely bloodless.

Convolutions were much separated by the effusion; the character of the fluid presented nothing different from that of serous effusions in general.

Lateral ventricles considerably enlarged by the effusion. Cerebellum softened and of a much lighter colour than natural.

Remarks.

We have been unable to obtain anything like a satisfactory history of the case, and can, therefore, only furnish the following imperfect items:

The boy's head commenced enlarging when he was about four years old; whether this was the sequence of any other disease, or under what circumstances it made its appearance, we are totally ignorant. At this time he was attacked with what his mother terms "fainty fits," and his mind was much affected. He, however, gradually recovered his intellectual faculties, but the fits continued at indefinite intervals. We saw the patient for the first time about a month since, and the following were the prominent symptoms: Eyes projected and pupils much dilated; pulse frequent, weak, and wirey; skin warm and dry; he complained almost constantly of a dull aching about the head, but no acute pain; face, hands, and feet would frequently swell towards evening, and go down by the following morning; diarrhœa and occasional vomiting; tympanitis. The "fainty fits" before mentioned, increased in frequency and severity as the fatal issue approached.

To the Editors of the Medical Examiner:

GENTLEMEN,—I send you the notes, taken by me at the time, of a few cases of Lithontripsy operated upon by the late lamented Dr. Randolph. I was present at all the operations, and kept notes at the time for Dr. Randolph, at his request, who intended to publish these, with many other of his cases of the same kind, in a complete form, with an essay on this mode of operating; his great success rendering it a favourite one with him, as you are probably aware. If you think them of sufficient interest for your journal, in their present condition, they are at your service.

Respectfully yours,

J. M. WALLACE.

Philadelphia, April 16th, 1849.

CASE I.—*Female child, aged four years, cured in six weeks. Seven operations*

Mary ———, aged four years; general health good; has suffered for several months, from pain in passing water; violent straining, and the usual symptoms of calculus; upon sounding, the stone was felt at once, and after introducing a sound for a few days, to accustom the urethra and bladder to the presence of instruments, a small-sized Jacobson's instrument was introduced to-day, January 22, 1838, but, in consequence of the stone being forced down so close to the internal orifice of the urethra, the expanded part of the blades were beyond it, and the stone could not be seized. It was withdrawn, and a large sized instrument of Heurteloup's used, by which the stone was caught immediately and crushed; caught a second time and again crushed; several small pieces came out in the teeth of the instrument upon its removal. The child struggled violently, but after the operation said that she suffered but little pain.

23d. Passed this morning a number of small fragments, amounting altogether to the size of a large pea. In the evening complained of considerable pain in the bladder; ordered a hip-bath.

27th. Passed a large fragment this morning. Since the last report has been very well, and playing about the room, complaining only when voiding her urine.

28th. Caught the stone this morning, the blades of the instru-

ment being separated *an inch and a quarter* when it was grasped. After crushing it, three fragments were caught and crushed; a slight discharge of blood followed the removal of the instrument.

Feb. 3d. For two days after the last operation, she passed several small fragments; nothing has come away since that time. The sound showed still the presence of several pieces of stone. She now retains her water for several hours.

Feb. 4th. Stone caught four times to-day, the blades of the instrument being expanded from a fourth to a half an inch; some blood followed the operation; but she suffered so little that she brought her doll with her to the table, and when led away, insisted on coming back for it and remained quietly, talking with us for several minutes.

8th. Complained of great pain in voiding the urine to-day. Ordered the hip-bath.

9th. Some fever during the night; tongue covered with a white fur; ordered a dose of magnesia.

11th. Appears to be very well; stone caught three times; instrument expanding one inch, a half an inch, and a fourth of an inch.

18th. Has passed several fragments since the last report, and a quantity of sand. Stone caught four times to-day.

20th. A large sound introduced in order to dilate the urethra.

25th. Passed three fragments the size of small peas since last report; four small pieces were caught to-day and crushed.

26th. Passed a tea-spoon full of very small fragments since the last report; stone caught twice to-day.

March 10th. Has passed several pieces since the 26th; *one* very large one; has been sounded very carefully, and nothing is to be felt in the bladder; her general health is excellent, and she retains her water for many hours at a time, and when voiding it has no pain or inconvenience whatever.

April 25th. This patient was heard from to-day, and has continued perfectly well ever since.

During the whole course of treatment this little girl was allowed to run about her room, and was never confined to bed, except for one day, when she had a little fever, as mentioned on Feb. 9th. It will be seen, moreover, that the stone was of considerable size. At no time was any operation continued longer than three minutes.

CASE II.—*Male, aged 21 years; cured in six weeks; twelve operations.*

Levi K., aged 21 years; good general health; has suffered for nine months from symptoms of stone. He was sounded in the country by a surgeon, who readily detected the stone, and advised the operation of lithotomy. His brother, who is a physician near Lancaster, brought him to Philadelphia, and placed him under the care of Dr. Randolph. He suffers but little, and has so little irritability of the bladder that he can retain his urine all night.

Sept. 28th, 1840. After remaining here for a week, in the presence of Drs. Horner, Henderson, his brother, and myself, Dr. Randolph caught the stone, with a large sized Jacobson's instrument, twice, and crushed it; the blades were open the first time to their full extent, when grasping the stone. The patient said that the operation was not more painful than the sounding to which he had previously submitted. Ordered twenty drops of laudanum, and to drink freely of flaxseed tea, with a small portion of sweet spirits of nitre in it, and to be confined to a vegetable diet.

29th. At 4 o'clock, P. M., had a severe chill, followed by fever; ordered a hip-bath, and the application of bags of hot sand to the pubes.

30th. Is to-day as well as usual.

October 3d. Has passed three fragments and a small quantity of sand since yesterday. The stone was caught and crushed five times to-day. Made no complaint of pain.

Oct. 7th. Present Drs. Ruan, Jackson, Page, and M'Pheeters. The stone was caught three times to-day, and was so hard that it was necessary to wrap the screw with a towel, in order to be able to use sufficient force to break it.

Oct. 8th. Passed a round black portion, as large as a pea, which appears to be the nucleus of the stone; around it there is a thin white layer, an analysis of which proves it to be the oxalate of lime covered by the phosphate.

Oct. 11th. Has passed three fragments; stone caught four times. He has passed but little stone, although it has now been broken fourteen times altogether.

Oct. 15th. Caught the stone three times to-day.

Oct. 19th. Several large pieces of stone felt just at the neck of

the bladder, which, probably by blocking up the urethra, prevent the smaller portions from coming away. To-day, the stone was caught four times, and one piece, judging from the expansion of the instrument, nearly an inch in size.

Oct. 25th. Caught four times. The bladder was very irritable after this operation; he passed his water every three-quarters of an hour, and has had a slight chill followed by fever; ordered laudanum injection and hip-bath. He has discharged a teaspoonful of fragments to-day.

Oct. 29th. Present Drs. C. D. Meigs and Wilson of Berwick. Operated on four times; passed several pieces during the day.

Nov. 5th. Has passed about two teaspoonfuls of fragments, and three large pieces since the last report. The stone was caught four times. He suffers no inconvenience whatever now from the operation, and dresses himself and walks about his room as soon as it is over.

Nov. 8th. Stone caught five times.

Nov. 12th. A large fragment lodged yesterday in the urethra, but was readily pushed back into the bladder by the sound. He passed in the course of a few hours a table-spoonful of fragments.

The stone was caught six times to-day.

Nov. 16th. Has passed a very large quantity since the last report. All that has come away nearly fills a common ounce box. The stone was caught to-day four times.

Nov. 20th. Has continued to pass fragments until yesterday, when he said that there was no more in his bladder, and upon sounding him carefully nothing could be felt, and he was allowed to return home.

This patient sent another one to Dr. Randolph two years after, and was at that time perfectly well. The case was a very interesting one, from the great size and hardness of the stone, and the number of times it was necessary to break it. It will be seen that it was broken no less than *forty eight times* in the twelve operations, and besides the mass of stone which fills an ounce box, a quantity of fine sand was passed which was not collected. The patient had fortunately a very healthy bladder, and consequently suffered but little from the frequent repetitions of the operation. There was a case under treatment at the same time who was cured in but two operations, the details of which are below.

CASE III.—*Male, aged* 41 *years; cured in two weeks; two operations.*

John D——, a farmer, from Columbia Co., Pennsylvania, six years ago received a severe blow on the back, which was followed by an attack of nephritis. For more than a year he has suffered from symptoms of stone; he has never passed any sand, nor can he recollect having an attack of nephritic colic since his injury. The stone was readily felt on sounding, and thought to be small. After remaining for a few days in town, he was operated on Oct. 29th, in the presence of Drs. C. D. Meigs, and Wilson of Berwick, immediately after the preceding case, and in the same room: the stone was caught three times.

30th. Has had a great deal of scalding in voiding his urine, which was tinged with blood. The violent straining in emptying the bladder has produced severe headache, which he states has frequently occurred from the same cause; ordered laudanum injection and four hours after a dose of castor oil. To drink freely of flaxseed tea with spirits of nitre in it. A-hip bath and warm sand to the pubes, &c.

31st. Passed a very bad night, pulse 90, and quick, tongue furred, complains of excessive scalding in voiding his urine ordered a seidlitz powder, and to repeat the hip-bath and laudanum injection.

Nov. 2d. All his unfavorable symptoms have passed off. Enough stone has been discharged to make, if put together, a mass nearly as large as a pigeon's egg. Says that he feels as if there was no stone left; not sounded yet, from a fear that the irritability of the bladder has not yet subsided.

Nov. 8. Has continued to improve until last night, when he was obliged to get up to empty the bladder, and says he feels something at the neck of the bladder. Upon sounding, a small fragment was felt and broken once.

Nov. 12th. Passed last night a few minute fragments, and upon sounding to-day nothing is felt.

A few days after this he returned home, and I heard from him four months after, when he remained perfectly well.

CASE IV.—*Male child, aged 4 years ; cured in two weeks ; two operations.*

Horace R., aged 4 years, has suffered from symptoms of stone for more than two years.

Oct. 8th. He was examined to-day. Present, Drs. Yardley and Kirkbride. Upon feeling the stone, a small sized instrument of Heurteloup was introduced, and the stone caught and broken three times. He does not retain his water any length of time, and is constantly wet. The stone is very soft, and broke very easily.

Oct. 10th. Is much relieved; has passed several small fragments.

Oct. 14th. The stone was caught once to-day ; he now retains his water, and his mother says " is better than he has been for six months."

Nov. 5th. Has passed a few small pieces and a quantity of sand since the last report ; nothing to be felt in the bladder. I heard from this patient two years after, and he remained perfectly well. This, I believe, was the youngest *male* child ever operated on by Dr. Randolph.

The following case of a child occurred in my own practice:

Male child, aged 4½ years; cured in three weeks; three operations.

Pearson H., aged 4½ years, has been sickly from his birth, and suffered much from disorder of the abdominal viscera. Dr. J. F. Meigs, who is the family physician, requested me to see him, Nov. 7th, 1847, as he suspected the presence of a stone in the bladder. Upon sounding, it was thought that a stone could be felt, but his struggles were so violent, and the bladder contracted so forcibly, that we were not certain of it. He was ordered palliatives, with directions to be informed if any change took place in his symptoms.

March 18th, 1848. He has become much worse, and upon sounding him to-day a stone was unequivocally felt. After introducing a sound every day for a week to accustom the parts to the presence of instruments, he was ordered a laudanum injection at 9 o'clock in the morning; and at 11 on the 25th, in the presence of Dr. J. V. Patterson and Dr. E. Wallace, I introduced a small sized instrument of Heurteloup, and caught the stone and broke it *once*. A considerable quantity came out in the teeth of the instrument.

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April 1st. Has been very comfortable since the operation, and retains his water for two hours at a time. The operation was repeated to-day, and the stone caught twice and broken readily. It is very soft, and upon analysis found to be composed of uric acid.

April 5th. Present Dr. F. West. Has passed half a teaspoonful of fine sand since the last report. The stone was caught twice to-day and broken.

April. 6th. Complains of pain in the urethra which was relieved by a laudanum injection. All his symptoms disappeared after this operation. He passed some fine sand for a few days. Upon sounding him a week after, the bladder was found perfectly free from any fragments. He soon after went to Cape May for the summer, and his father informed me a few weeks since that he remained perfectly well, and had had no return of his complaint since. As a matter of prudence I directed him to remain in bed after the operation, but he could not be persuaded to do so, and was allowed to be about his room, and during the treatment went about the house as usual.

Pennsylvania Hospital.—*Surgical Wards.—Service of* Dr. Peace.

Cases discharged since March 15th, 1849.

	Cured.	By request.	Died.
Abscess,	0	2	0
Calculus,	0	0	1
Contusions,	4	0	0
Chill blains,	1	0	0
Disease of ankle, (scrofulous,)	0	0	1*
Dislocation,	3	0	0
Erysipelas,	3	0	0
Fistula Lachrymalis,	1	0	0
Fractures, simple 6, viz.:			
Fore-arm,	1	0	0
Clavicle,	1	0	0
Patella,	1	0	0
Thigh,	1	0	0
Leg,	2	0	0
Fractures, compound 4, viz.:			
Arm,	1	0	0
Hand,	1	0	0
Leg,	2	0	0
Hemorrhoids,	1	0	0

* A delicate child, worn out by a profuse discharge.

	Cured.	By request.	Died.
Hydrocele,	1	0	0
Inflamed face,	1	0	0
" knee,	0	0	1*
" hand,	1	0	0
Onychia,	1	0	0
Paronychia,	2	0	0
Phymosis,	2	1	0
Sprain,	1	0	0
Stricture of urethra,	1	0	0
Syphilis,	4	4	0
Ulcers,	8	1	1
Ununited fracture,	1†	0	0
Wounds 3, viz.:			
Incised,	1	0	0
Lacerated,	0	0	1‡
Penetrating,	0	0	1
	47	8	5

Incised wound of the wrist.—Division of the radial and ulnar arteries and of the median nerve.—A boy aged 14 was admitted March 19th, 1849, with an incised wound of the left wrist, by which the radial and ulnar arteries, the median nerve, and the superficial flexor tendons of the fore arm were divided. The arteries had been secured by ligatures at both ends before his admission. There was perfect loss of sensation in the hand, except in the thumb and little finger, but the temperature was very slightly changed. The wound was closed by two stitches and adhesive plaster, dressed with dry lint and confined on a straight splint. In three days there was some sensibility in the palm of the hand, in seven days the sensation in the middle finger was natural, and in three days more the fore and ring fingers had recovered their ordinary power of feeling. The ligatures were all separated by the tenth day, and the wound had almost entirely healed by the first intention. He was discharged well April 14th.

He had not recovered the power of perfectly flexing the fingers, but, no doubt, as the union of the divided tendons becomes more firm, their usual strength will be restored.

Dislocation backwards and a little outwards of both bones of the fore arm without fracture.—This accident, so rare in the adult, unconnected with fracture either of the internal condyle of

* Died of tubercular meningitis.
† Cured by amputation.
‡ Died of erysipelas of the head.

the humerus or of the coronoid process of the ulna, happened March 19th, 1849, to a very muscular man, a drayman, who had fallen forwards from a bale of cotton and had struck the ulnar edge of the fore arm against the curbstone. He was admitted into the hospital about half an hour after the accident. The nature of the injury was very evident. The hand was pronated, the fore-arm partly flexed on the arm. The olecranon was one inch and a half above its natural position, the internal condyle very prominent, and the head of the radius could be felt and seen rotating a little above the site of the external condyle, which could not be felt.

Reduction was effected by drawing upon and bending the fore arm, with the knee in the bend of the elbow. The bones returned to their places with a loud snap.

The arm was laid on an angular splint, and cold applied. At the end of a week, passive motion was commenced, and at the end of three weeks more he was discharged with all the motions of the joint perfect.

Wound of the intestine—death.—A sailor, aged 28, was admitted the night of March 20th, 1849, with a stab of the right iliac region, immediately above the anterior superior spinous process. About four inches of the large intestine, apparently the head of the colon, were protruded through the wound, and in the protruded portion there was a wound about three-fourths of an inch in length, through which fæcal matter was escaping. The injury had been received about an hour before admission, and the patient was so intoxicated as to be unable to give an account of how it happened. His pulse was frequent and full, and his skin warm.

The wound in the intestine, which was longitudinal, with the mucous membrane considerably everted, was closed by the continued suture, one end of which was allowed to depend externally; and the gut, after slight dilatation of the parietal wound, was returned into the abdomen. The external wound was then closed by two stitches and adhesive plaster, and dressed with dry lint.

The patient was ordered fifty drops of laudanum, to be repeated in two hours if he did not sleep. Barley water for diet and perfect rest.

In the morning he was found very restless, with great trembling of the hands, vomiting and other symptoms of delirium tremens.

Ordered ℥j. brandy, and fifty drops laudanum, to be followed by twenty-five drops laudanum every two hours if not more composed. Trickling from the wound of a light coloured liquid. Pulse 120, rather full.

21st. Has had scarcely any sleep, still dreading the horrors. Pulse 128, very compressible. Abdomen slightly tympanitic.

22d. Pulse 138, moderately full. Some tympanites and tenderness of the abdomen; vomiting of a yellowish fluid. Ordered warm fomentations to the abdomen, and an enema which brought away a few hardened fæces.

23d. Pulse 138, soft. Has had some sleep. Abdomen softer and less tender, but still vomiting of a dark coloured fluid. Ordered calomel gr. viij., opium gr. iv. Divide into four pills, one every two hours. Also, an enema, which induced a copious fluid stool unmixed with blood. Purulent discharge from the wound.

The following day he appeared better. Pulse 112, moderately strong. Abdomen more soft and less tender. He had during the night two free stools. Secretion of urine about natural. Still some vomiting.

The following day he was much worse. Vomiting of a dark coloured fluid without any particular odour. Skin cool, pulse 128. Delirious at times. He died that night at ten o'clock, five days after having received the wound.

The autopsy was made 16 hours after death.

Rigidity incomplete. There was a wound two inches in length not united, immediately over the anterior superior spinous process of the right ilium. Commencing decomposition in the neighbourhood of the wound.

The thoracic viscera were found healthy.

On opening the abdomen, it was found to contain a considerable quantity of pus, and shreds of lymph. The intestines everywhere adherent to one another, and to the omentum, which was much thickened. The intestine wounded was the colon, about 3 inches from the ilio-cœcal valve.

The colon was slightly contracted at the seat of injury, and joined by rather firm adhesions to the walls of the abdomen, at a point immediately corresponding to the external wound. The wound in the gut was not united, the mucous membrane everted, and the stitches of the suture entirely separated from one side, but

still connected to the other. The mucous membrane in the vicinity of the wound was not inflamed. No fæcal matter could be found in the cavity of the peritoneum, nor was there any smell or other sign of fæcal effusion having caused the fatal inflammation. Kidneys very vascular, and some appearances of extravasated blood in the secreting portion.

Death from convulsions caused by the irritation of Calculus in the Bladder.

Francis McFadden, aged 12, was admitted into the Hospital with symptoms of stone in the bladder.

Twelve months before, a stone was removed by lithontripsy, and in the early part of last summer a new formation was removed by the same process. After each operation his health improved very much, but in the last few months the symptoms reappeared with greater severity. About three weeks before admission he was carefully sounded, but no stone detected. Dr. Peace passed a sound into his bladder, and immediately thought he felt a stone, but fearful of increasing the vesical irritation, withdrew the instrument, and ordered him put to bed and anodynes administered.

During the afternoon he suffered intensely with vesicle tenesmus and dysury, and about 10 at night was seized with convulsions which resisted all the remedies employed. In the morning he partly recovered his senses, but was in so exhausted a state that he died a few hours after, a little over 24 hours after he was admitted into the house.

It was afterwards stated by his mother that he had been in such constant pain for the few days preceding his dcath, that he had been unable to sleep or even to take his food.

The urinary organs were examined 16 hours after death. The kidneys were very pale, lobulated and very much enlarged. The right kidney measured five inches in length, by two and a half in width. The left rather less. The pelves and infundibula very much dilated, and the ureters so much enlarged as to resemble the small intestines. In one of the dilated infundibula of the left kidney, was found a calculus the size of a large pea; the other infundibula contained a small quantity of pus.

On opening the bladder it was found to contain a stone $1\frac{1}{2}$ inch in length, weighing 246 grs. The mucous membrance was injected, and covered with a thick mucus, and it, as well as the

muscular coat, was very much thickened. There were no pouches in the bladder; the prostate gland appeared healthy.

The calculus found in the kidney was the triple phosphate. That in the bladder was the triple phosphate with a thick loose coating of phosphate of lime. The whole formed on a nucleus, consisting of a fragment distinctly recognisable.

Permission to examine the head was refused. Most probably no organic change would have been found, as it is reasonable to suppose that the convulsions depended upon cerebral irritation, propagated to the brain from the bladder and kidneys.

SPENCER SERGEANT,
Resident Physician.

Pennsylvania Hospital, April 15th, 1849.

BIBLIOGRAPHICAL NOTICES.

Obstetrics—the Science and the Art. By CHARLES D. MEIGS, M. D., Professor of Midwifery and the Diseases of Women and Children, in the Jefferson Medical College, one of the Physicians to the Lying-in Department of the Pennsylvania Hospital, Vice President of the Philadelphia College of Physicians, Member of the American Philosophical Society, of the American Medical Association, etc., etc. With one hundred and twenty illustrations. Philadelphia, Lea & Blanchard, 1849.

The above work will be welcomed most cordially by all who feel an interest in the study of obstetrics. Its author is well known as a practitioner of vast experience, in matters appertaining to midwifery, and the diseases of women and children, and it is truly surprising, how one, who is continually going about doing good in his way, should find time to write so much and so well as does Dr. Meigs. Within the last two or three years, he has published his translation of the work of Colombat de L'Isére, on the diseases of females, his own work on the same subject, and the present treatise on obstetrics; comprising in all nearly three thou-

sand octavo pages of printed matter. Nor must it be supposed that these works have been hurriedly written, for notwithstanding some defects of style and errors of opinion, it is apparent that the author has reflected at leisure upon most of the subjects of which he treats.

The work before us is divided into four parts; the first comprising the anatomy of the parts concerned in the acts of reproduction; the second, the physiology of reproduction; the third, the therapeutics and surgery of midwifery; the fourth, the history of the diseases of the neonatus or young child.

Chapter 1st contains a description of the anatomy of the bony pelvis, and of the soft parts lining its cavity. The necessity for a thorough knowledge of the planes, axes, and diameters of the pelvis, is forcibly pointed out by the author, and for the purpose of illustrating the advantages of a proper inclination of the plane of the superior strait, he has copied some outline figures of the female, from the work of Wigand, which we would advise our readers to consult, in consequence of their novelty, and their practical bearing on the prognosis of labour.

Dr. Meigs regards the separation of the pelvic ligaments as pathological, and not physiological in its character. This opinion, maintained by most obstetricians of the present day, is, we think, correct, though its accuracy has been questioned by some writers on midwifery.

In chapter 2d we have a description of "the mechanism of labour, as it depends upon the relation of the pelvis to the fœtal head." Of the vertex, he admits six positions; and in describing the mechanism of each, he explains the movements of *flexion*, *rotation*, *extension* and *restitution*, with sufficient accuracy for all practical purposes. The movement of *rotation* is attributed to the influence of the inclined planes, of which so much is said in some works on midwifery. To this opinion we cannot assent, since the observations of Dubois, Cazeaux, &c., have proved conclusively to our minds, that rotation in a majority of cases occurs when the head has reached the inferior strait of the pelvis, and is no longer under the directing influence of the inclined planes. Indeed, a fact reported by Cazeaux shows that rotation may be deferred, even until the head has almost passed the posterior commissure of the perineum, in which case the inclined planes could have had no influence whatever.

Chapter 3d contains a description of the form, size, sutures and fontanels of the fœtal head. According to our author, "rigorously speaking, there are but two presentations in midwifery—one of the head, the other of the pelvis." Presentations of the shoulder, arm, face, and forehead, are regarded as deviations from the vertex; those of the feet and knees from the pelvis. The mechanism of the various positions, is minutely described in a subsequent part of the work.

In chapter 4th we have a description of the genitalia, with occasional remarks upon some of the accidents to which these tissues are liable, during pregnancy or parturition.

Chapter 5th will be found to contain an interesting account of the anatomy and physiology of the ovaries, Graafian vesicles, and of the ova contained within them. The author reiterates his opinion, previously expressed in a paper read before the Philosophical Society of Philadelphia, in regard to the vitellary nature of the corpus luteum. This opinion is at variance with the observations of other microscopists, and will require further investigation for the determination of its truth. It is certain, however, that the vitellus and the granular matter of the corpus luteum, differ essentially in function; the former lies within the ovum, and is intended to nourish the fecundated ovum of the mammalia, until it forms an appropriate attachment with the uterus; the latter, placed exterior to the cavity of the ovum, has no such function, because the ovum has escaped from the cavity of the Graafian vesicle. There is no difference between the vitellus of the mammalia and that of the oviparous animal, except that in the former, its presence is necessary only during a short period of embryonic life, while in the latter it is required during the whole term of incubation. Dr. Meigs is of opinion that the true and false corpora lutea only differ in magnitude, not in their essential nature.

In the last paragraph of this chapter, we meet with the following opinion expressed by our author, to which we cannot assent. He says, " It surprises me to see that many able and distinguished writers still cling to the antiquated notions as to the ovaric fecundation, which M. Pouchet has shown to be an impossibility." It has been satisfactorily proved (this is admitted by Dr. Meigs, p. 153) by Bischoff and Barry, that the semen does reach the ovary. If this be true, where is the difficulty ? It is not necessary

to " believe that the male seed enters into the ovisac, through not the peritoneum only, but through the albuginea and the concentric coats of the ovisac," for these coats of the ovum have been perforated by the organic process of ovulation, and it is through " *the open hilum*," or " *pore*," that the semen comes in contact with the ovum which has not yet escaped from the ovisac. The words marked in italics, are extracted from the work of Dr. Meigs, and it is evident that he believes in the possibility of *ovarian fecundation*, and may be justly charged with clinging " to the antiquated notions as to ovaric fecundation, which Mr. Pouchet has shown to be an impossibility." But our author says, in speaking of ovarian pregnancy, that it cannot be deemed possible, except by supposing that "upon some change of posture of the woman, the further escape of the fecundated ovule might be prevented, the pore being stopped by the pressure of a fold of broad ligament, a loop of intestine or other obstructing cause, and thus the fecundated germ, imprisoned within its cell, might commence its carreer of development, making the ancient follicle which produced it, become its matrix and succedaneous womb up to the time at which it must inevitably burst." In this paragraph we have a clear admission of the possibility, not only of *ovarian fecundation*, but of *ovarian pregnancy*, " *antiquated notions*," to which he is surprised any one should cling. In our opinion, no one can doubt, that ovarian fecundation and ovarian pregnancy are possible, not only in consequence of the positive proof, that the semen may reach the ovary, and be thus brought into contact with the ovule, already divested of its coverings, but also, because many cases of ovarian pregnancy have been reported by those upon whose integrity and judgment we may with confidence rely.

Chapter 6th contains a good account of the function of menstruation. The theory adopted by our author, as to the use of the catamenial flow, is based upon the following assertions. 1. Previous to puberty, the ovaries do not contain any mature ovules, but at the completion of the puberic age, ova are matured in the Graafian vesicles, and continue to ripen, until the female ceases to be susceptible to impregnation, which in this country is about the age of forty-five. 2. The ova ripen periodically; in women once a month, in the lower animals, at stated periods, which vary with the species. 3. During the last days of the development of the

ovarian ovule, " the vascular circulation and the nervous intensity are greatly augmented, a state which passes far beyond the boundaries of the stroma itself, and being propagated to the uterus and vagina, renders them the seat of a sanguine affluxion and engorgement. Under such circumstances, the uterus increases its weight, it acquires a redder hue, is more sensitive, and sinks somewhat lower in the pelvis. From such engorgement and affluxion it is delivered by means of the menstrual hemorrhage," &c. &c. Though it is maintained by most of those who have investigated this subject, that no ova are matured previous to puberty, yet Dr. Ritchie asserts positively that such maturation does occur, even during childhood, without any catamenial flow, hence the sanguine congestion of the parts, incident to the maturation of ova, cannot with propriety be considered the cause of the subsequent hemorrhagic discharge. Again, is it true that the ova are matured and discharged at stated periods only ? The affirmative side of this question is taken by Pouchet, Raciborski, Bischoff, &c., who affirm that in all cases, in which females dying about the catamenial epoch, have been examined, the evidence of the maturation and expulsion of ovules invariably existed. These assertions are denied by other investigators of the highest authority : thus, Dr. Ashwell states, that he examined the ovaries of three females, during the menstrual flow, in neither of whom was there any evidence of the maturation or expulsion of ova. Dr. Ritchie also maintains, that ovulation occurs, not only during the catamenial flow, but also in the intermenstrual period. These facts completely overthrow this new theory of menstruation. In our opinion, there can be no doubt of the fact that the maturation and expulsion of ova are continually going on ; for if this were not so, impregnation would only be probable during the catamenial flow, or a short time after its cessation ; a doctrine which, though maintained by eminent authority, is at variance with many well attested observations.

In chapter 7th the pathology and treatment of amenorrhea is discussed in a most masterly manner. We agree with our author in thinking that a failure to menstruate should be regarded rather as a consequence, than a cause of ill health, and therefore, instead of endeavouring to cure these affections by searching among the class of emmenagogues for some specific means of cure, an accurate examination into the state of the general system, and of its compo-

nent organs, should be instituted; and if disease, either functional or organic, be discovered, the case should be treated upon rational therapeutical principles. Such a plan would be much more certain to correct any irregularity in the catamenial function, than the empirical means more commonly employed for the cure of these diseases.

At page 141, Dr. Meigs lays down, in fifteen propositions, his views in regard to hematosis, the object of which is to prove that the endangium or lining membrane of the blood vessels "contains the force that makes the blood;" for, says he, "soon after the chyle is poured into the cavity of the endangium and becomes exposed to the influence of the oxygen in the lungs, it acquires the cha - racter of perfect blood. It is not to the oxygen alone that it is indebted for this morphological development. Contact with the endangium is essential to that development, since the blood loses its physical character as soon as it ceases from that contact." This is a novel doctrine, and without going into a discussion of the physiological explanations of the mode in which chyle and lymph are converted into blood, it may be safely assumed, that the blood can hardly owe its healthy condition to the influence of a membrane, formed, if not from the blood itself, at least simultaneously with it. The germinal membrane—a membrane temporary in its structure and function—absorbs the nutritious material from the yolk, and prepares it for the use of the embryo, by converting it into blood. Whether at this time blood vessels have been formed or not, is a matter of doubt. Carpenter says "that whilst the capillary vessels are being formed by the union of the cavities of these, (the cells of the germinal membrane,) blood discs seem to be developed from the granules or cell germs they contain." Thus it would appear, that the blood vessel is not formed before the blood. This, Dr. Meigs seems to admit at page 179, where he says, "it is a faculty of blood in motion to make a channel or vessel for itself, which vessel is found to be lined with endangium;" and again, at page 180, he remarks that "this heart drives the blood into the embryonal sarcode, wherein the blood makes its own channels, which as they become complete are blood vessels". Independent then of the fact that we possess no positve proof that this endangium exercises so important a part in the function of hematosis, are we not justified in denying the doctrine, that the

condition of the blood depends upon that of a membrane, which originally was formed either from the blood itself or co-incidentally with it?

In chapter 8th, under the head of pregnancy, we have an account "of all the changes which take place in the respiratory organs, and in the whole economy of the female, from conception to the end of the puerperal state, as well as a history of the development of the fœtus." Fecundation, is defined the vivification of the ovum; and conception, the fixation of this fecundated ovule either within the uterus, or exterior to its cavity. The time which elapses between these two acts, is a matter of great uncertainty.

In regard to the nature of the decidua, our author does not seem to have made up his own mind, for after describing Hunter's views, and extracting largely from the work of Mr. Coste, he says, "I leave it to the student now to judge for himself as to the nature of the deciduous coat of the womb." This is a very difficult question for a student to decide, and though Dr. Meigs has referred him to some of the best authorities, yet to our surprise he has omitted to mention the names of Reid, Sharpey and Goodsir, an analysis of whose opinions may be found in the last edition of Carpenter's Human Physiology. According to Sharpey and Weber, the deciduous coat is composed of the inner portion of the mucous membrane, which after conception undergoes very considerable changes in its character. This membrane, as observed by Reid, possesses on its free surface a tubular structure, which becomes thickened and increased in vascularity after conception. The orifices of these tubules, in a recently impregnated uterus, are easily detected under the microscope, and seem to be lined with a white epithelium. Between these tubules, Goodsir states that a number of nucleated cells are visible. After conception, all these component parts become much hypertrophied, and at a later period of pregnancy, the decidua is said to separate into two distinct layers, "so different in texture, that they cannot be supposed to have the same origin." On this point the following explanation has been offered by Mr. Goodsir; he says, "from what has now been stated, it appears that the decidua consists of two distinct elements; *the mucous membrane of the uterus*, thickened by a peculiar development, and *a non-vascular cellular substance*, the product of the uterine follicles. The *former* constitutes at a later period the

greater part of the *decidua vera;* the latter, the *decidua reflexa.* This view of the constitution of the decidua, clears up the doubts which were entertained, regarding the arrangement of the membranes at the os uteri and entrances of the Fallopian tubes. It is evident that these orifices will be open or closed just as the cellular secretion is more or less plentiful, or in a state of more or less vigorous development." Our only apology for having entered so fully into the detail of these views of the decidua is, that they seem to us to simplify what has hitherto been regarded as a most intricate question.

Passing over the description of the allantois, amnion, &c., we come to that of the placenta. Dr. Meigs informs us that, notwithstanding Hunter's assertion that the placenta consists of a maternal and fœtal portion, he, claiming "the privilege to see with his own eyes," is compelled to adopt the opinion of Velpeau, Seiler, &c., who maintain that the placenta is entirely fœtal in its character. The views of Weber, Coste, Flourens, Bischoff, &c., are referred to; but here again, we find the names of Reid and Goodsir omitted. These observers insist that the placenta consists of two portions—the one maternal, the other fœtal. According to Reid, the blood is sent from the mother through the "curling arteries" of the uterus "into a large sac, formed by the inner coat of the vascular system of the mother, which is intersected in many thousand different directions by the placental tufts projecting into it, like fingers, and pushing its thin wall before them, in the form of sheaths, which closely envelope both the trunk and each individual branch composing these trunks. From this sac the maternal blood is returned by the utero-placental veins." In the above opinion Prof. Goodsir coincides, with some slight modification; the most important of which consists in the discovery, that between the tufts of the chorion and the inner coat of the uterine vascular system which envelopes them, there is found two distinct sets of nucleated cells; the one belonging to the maternal portion of the placenta, is situated between the membrane of the chorial villi and the vascular system of the mother; the other belongs to the fœtal portion of the placenta, and lies between the membrane of the villi and that of the umbilical vessels. The object of the nucleated cells is to absorb material from the blood of the mother, so that it may be conveyed by the umbilical

vessels to the body of the fœtus. We would refer our readers to the more recent works on Physiology for a more accurate detail of the opinions of Reid and Goodsir, which constitute, beyond doubt, the prevailing doctrines of the day.

In the description of the fœtal circulation, we find that Dr. Meigs still clings to his theory of cyanosis. Without discussing this question, to which a whole chapter is devoted in a subsequent part of this work, we need only state that our author's theory has not been adopted by other members of the profession, because post-mortem examinations have established the fact, that cyanosis depends upon other causes, and that the simple opening of the foramen ovale is not sufficient of itself to produce this accident, nor would the admixture of the venous or arterial blood, account for the peculiar discolouration of the skin.

The duration of pregnancy, according to Dr. Meigs, may be much protracted beyond the usual period. That this is true to a certain extent, but few medical men will deny; at the same time very few will be found willing to agree with our author in thinking, that gestation may be procrastinated till the twelfth or fourteenth month. Two cases are related by our author for the purpose of substantiating his opinion. The first is that of "Signora N.," reported by Asdrubali. This lady was affected with symptoms of pregnancy about the 1st of March, 1796, at which time she had the misfortune to lose her husband, and "to the grief occasioned by the loss of her spouse, were added great distress and embarrassment connected with the inheritance of his estate, and notwithstanding she early declared the existence of her pregnancy, she was much tormented and baffled by his relatives, who treated her declaration as false." This lady after many sufferings was delivered on the 29th of April, 1797, of twins. In this case the period of gestation was extended to nearly fourteen months. Dr. Meigs says, "I find nothing impossible to believe" in this case. We confess that our confidence in the assertion of the lady, *Signora though she be*, is not so great as our author's, the more especially as it seems, from the above quotation, that the inheritance of a nobleman's estate depended upon the birth of an heir. The motive for deception is so great, that we cannot but reject the validity of a case so extraordinary. The second case is that of Ann Gideon, who supposed herself pregnant in the month

of July 1839. On the 20th of November she quickened, and in April was seized with symptoms of labour, the waters were discharged, but the labour pains gradually ceased, and she was not delivered till the 13th of September, 1840. The child was living, and was of medium size. This is a remarkable case, and if true would go very far to prove that the term of utero gestation might be extended beyond twelve months. Its truth, no one could doubt, if the facts of the case were the results of our author's own observations, but they are not, for the patient was not seen by him until her entrance into the hospital, on the 4th day of August, about one month previous to her delivery. To show that Dr. Meigs was not confident of the positive truth of the facts of this case, we make the following extract from his work, he says, "Of course, in relating this case, I do not consider myself responsible for the truth of its statements, further than they are worthy of confidence, in view of the character of the patient herself, and as the facts came under my notice. She had the appearance of perfect candour and sincerity in all that she said about it, and I have no doubt, she thinks her pregnancy began in July, 1839, and ended as I have said on the 13th of September, 1840." When such extraordinary cases occur, we must have them substantiated by undoubted testimony, before we can be induced to believe in their genuine existence, hence we are sure our readers will agree with us in thinking, that the two cases reported by our author by no means establish the fact that pregnancy may be prolonged till the twelfth or fourteenth month. Dr. Atlee of this city has published in the Am. Med. Jour. of Med. Sciences for October, 1846, the history of two apparently well authenticated cases, in which pregnancy was prolonged till the end of the twelfth month, the computation of the term being dated from the time of the cessation of the last catamenial flow. In each of the cases quickening was observable about four and a half months after the disappearance of the catamenia, and in twelve months and a few days the females were delivered of unusually large and healthy children. From the account given by Dr. Atlee, we feel sure that there was no motive for deception, and that the females were convinced of the truth of their own statements, but we cannot understand why the beginning of pregnancy was dated from the cessation of the catamenia. Impregnation may have taken place a few days previous to the

subsequent menstrual epoch, (nearly one month later,) and if it did, then the term of utero gestation was prolonged only till the end of the eleventh month—a degree of procrastination within the bounds of probabilities. Neither the period of quickening nor the time which elapsed between this and the subsequent delivery, render our explanation improbable, and we are compelled to deny that these were cases in which pregnancy had really been extended to twelve months. In the determination of this delicate question, we think medical men should be extremely cautious, taking care to ascertain whether the character of the female be reliable, whether there exist any motive for deception, and whether the facts of the case have been carefully observed by an intelligent and capable physician.

In fixing the date of impregnation, Dr. Meigs reckons from the day following the disappearance of the last menstrua, adding to it two hundred and seventy-nine days. This mode of computation is not entirely accurate, because, as Dr. Meigs remarks, it will not apply to the case of those religious Jewesses, who refuse all marital connection until eight days after the disappearance of the discharge. But this is not the only case in which its accuracy would be at fault, since it is undoubtedly true, that impregnation may occur some days before the appearance of the catamenia. In a case reported by Dewees, not only was the female impregnated "within a week" of menstruation, but it was found that fecundation did not, as it usually does, interfere with the next menstrual flow.

Our author after giving us an account of the development of the tissue of the uterus, of its blood vessels and nerves, notices in a concise but satisfactory manner the signs and diseases of pregnancy.

In part third we are brought to the consideration of the more practical portion of our author's obstetrical treatise, and it is so well executed, that we cordially recommend it to our readers as the source from which he can obtain a vast amount of most valuable information. Chapters 9th and 10th contain an admirable account of the physiological and mechanical phenomena of the process of parturition and of the duties of the accoucheur when called to a case of labour.

In chapter 11th, the mechanism of face presentations are well

described. Our author regards these as natural, and dwells with much propriety upon the great principle which should guide obstetricians in their management, viz., to take care in every position of the face that the chin be brought under the arch of the pubis. Unless this be attended to, whether in instrumental delivery or otherwise, the labour will be rendered exceedingly difficult, terminating almost always in the death of the child.

Chapter 12th contains a good account of breech presentations, which are regarded by Dr. Meigs as natural, though much more fatal to the child than either vertex or face presentations.

In chapter 13th we are brought to the consideration of preternatural labours, or those " that cannot be brought to a safe conclusion by the natural powers of the system." The causes which call for interference in cases of labour are exceedingly numerous, hence we have a great variety of preternatural labours, *some essentially so*, from faulty position or pelvic deformity, *others accidental* from the supervention of hemorrhage, convulsion, exhaustion, &c., &c. Each variety of preternatural labour is separately noticed, and in the main, our author's remarks upon their nature and treatment are exceedingly judicious. One of the best articles is that upon shoulder presentations, a perusal of which will fully repay any one who will study it attentively.

In our author's remarks upon flooding there is much to commend, but in one or two points we are compelled to differ with him in opinion, thus in the management of hemorrhage before birth, after having recommended cold applications, the rupture of the membranes, &c., he says, if " the flow of blood should not be stayed, and the os uteri should still continue to be so rigidly contracted as to make it impossible to turn the child, recourse should be had to the ergot in very small doses, with a view of producing a feeble ergotism or tonic contraction of the womb, not severe enough to injure the child, but yet so strong as to condense the uterine tissue sufficiently to arrest the flow of blood from its vessels." To the use of ergot in this case we must enter our most solemn protest, not upon the ground that it will fail by " the tonic contractions " to arrest the flooding, but because these very " tonic conctractions," besides being exceedingly apt to destroy the child, are unfavourable to the future delivery of the patient, inasmuch as they prevent the dilatation of the os uteri. The plan

which we would substitute for the use of ergot, would be the employment of the tampon. Our author objects to the tampon, upon the ground that it serves to convert an open into a concealed hemorrhage, and increases the flow of blood by producing a further separation of the placenta, &c. We do not consider these objections to the use of the tampon as well founded, because the uterus, already distended with the full grown fœtus, will hardly allow any farther flow of blood within its cavity; hence much benefit will finally result from the formation of coagula at the mouths of the uterine vessels. By adopting this plan of treatment, we will avoid the unfavourable influence which the use of ergot rarely fails to exert upon the subsequent progress of labour. The effects of ergot are not so easily controlled as Dr. Meigs seems to think, and we very much fear that in the attempt to induce "feeble ergotism," the most injurious consequences might arise from excessive contraction of the uterine fibres. In post partum hemorrhages, this medicine is most valuable, but in any other form we would regard its employment as extremely injudicious. For the fully expressed views of our author on the effects of ergot, we would refer our readers to chapter 21, which is entirely devoted to the consideration of this subject.

The description of the nature and treatment of the other varieties of hemorrhage, and of the hour-glass contraction, will be found full of interest and highly instructive. We observe that our author refuses to adopt the mode of treatment proposed by Drs. Radford and Simpson in placenta prævia cases. Though this question may at present be regarded as undetermined, yet we are disposed to think, that the new plan of treatment offers greater chances of safety to the mother, than the one usually resorted to by medical men.

In this chapter, convulsions, prolapsus of the cord, fainting, anæmia, hernia, exhaustion, &c., &c., are all judiciously considered.

Chapter 14th contains a full account of pelvic deformities, to which we would refer our readers.

Chapter 15th is devoted to the forceps. The mode of applying these instruments and the cases requiring their employment are well described by Dr. Meigs. In his preference for Davis' forceps we do not agree, but believing, that practice will enable every skilful obstetrician to employ with success most of the varieties of forceps, in use at the present day, we do not regard this difference of

opinion as a matter of much importance. Our author in asserting that Dr. Huston of this city employs Siebold's forceps, has unintentionally fallen into an error. The forceps of Dr. H. is a modification of Siebold's, as will seen by reference to the following remarks by Dr. H. in his edition of Churchill's midwifery. "By the kindness of Dr. Mœhring, a former pupil of Siebold, I have before me the instrument of that distinguished professor, made by Windler of Berlin, and which may, therefore, be regarded as accurate. On comparing mine with it I find them to differ as follows: although the instruments are of the same length, the blades of mine are an inch longer than those of Siebold, and the handles from the pivot correspondingly shorter. This brings the lock more completely free from the vulva, when operating at or above the upper strait; at the same time, the shaft, or narrow part of the blade beyond the pivot, constitutes in fact a part of the handle equally effective with the handle proper. The *fenestra* of the blade is nearly double the width of that of the German instrument, and the sweep of the second curve an inch and a quarter greater. The instrument is also four ounces lighter than the Berlin made forceps." Dr. Huston then goes on to mention the advantages of his modification, which appear to us of very great value.

The remainder of part 3d contains a full account of Embryotomy, Hysterotomy, Induction of premature Labour, Inversion of the Uterus, Puerperal Fever, &c. All of these subjects are well treated and require no comment at our hands.

In part 4th, "The history and diseases of the young child," are discussed in three well written chapters, but our notice has already been so much extended that we must pass them over without comment.

In conclusion, we would recommend this treatise on obstetrics to the profession as one worthy the reputation of its distinguished author; and though we have found fault where errors of opinion presented themselves, yet we have done so conscientiously, conceiving it our duty as reviewers, to expose the errors of a work, exactly in proportion to its merit and the authoritative influence of its author.

A Practical Treatise on the Domestic Management, and most important Diseases of Advanced Life. With an Appendix, &c. &c. By GEORGE E. DAY, M. D., Fellow of the Royal College of Physicians, &c. Republished by Lea & Blanchard, Philadelphia.

This last work of Dr. Day may fairly be regarded as a valuable book in many senses of the term. It abounds in practical suggestions, and in matters of detail no less practical, which are evidently the fruit of great personal experience as well as a wide range of careful reading. The clearness and brevity, not to say completeness, with which the author has managed to convey an unusual amount of important information not easily obtainable elsewhere, must render his production at once a welcome and particularly useful addition to our working libraries.

Volume after volume of the newest pattern heaped upon our table attest, in mass, alike the alarming frequency of disease and death in infancy and childhood, and the necessity for making these disasters the subject of especial and laborious study; yet the far more inevitable disorders and fatal terminations of tottering old age, seem to have shared so little in the zeal with which the same earthly pilgrimage is watched and guarded at the outset of its devious career, that extended monographs of the kind, now under notice, are almost entirely unknown in this country and Great Britain, and are scarcely less rare even among the *de omnibus rebus* writers of the European continent.

It is too true that daily observation will ever continue to remind us of the fiat of holy writ, that the days of man's life are but the melancholy three-score years and ten, beyond which no strength can be looked for that is aught else than labour and sorrow. Still, however slightly the feeble art of man may avail us, there is no reason whatever for despair. We need no ghost from the grave to tell us—we need not even this able treatise of Dr. Day, with its invaluable bibliography and index, to convince us that a vast deal may be done under the guidance of an intelligent experience and humanity, to avert the earlier doom which threatens all men in the sere and yellow leaf, and to mitigate the pains and penalties of an existence prolonged beyond the ordinary span.

We would feel bound to offer a cordial welcome, therefore, to this small and unpretending volume, in honour of its title only,

and for the sake of the further investigation it will be sure to stimulate around us.

But a close examination of the essay in itself, has fully justified the interest which the nature of its topics, and the reputation of its author as the translator of *Vogel* and *Simon*, and as the able lecturer "*On Chemistry and the Microscope in relation to Practical Medicine*," had already led us to entertain.

There is much throughout his pages that would afford valuable material for comment and quotation in a more elaborate review, than would serve an advantageous purpose here. There are some questions, too, upon which, in our capacity of censors, we might venture to maintain a difference of opinion. We prefer, however, avoiding the delay and embarrassment of the rigorous selection demanded by a necessarily restricted notice, and propose to do all the justice in our power to its merits as a standard work, by confining our present sketch to a very brief analysis, or rather enumeration of its principal contents.

Beginning with a page of addenda, and an admirable bibliography, for a considerable part of which he is indebted to the German monograph of *Canstatt*, whose work he frequently refers to, Dr. Day divides his treatise into thirteen chapters, in each of which distinct and important topics are concisely, but very practically as well as learnedly, discussed.

The first six chapters are occupied respectively with the most important changes occurring in the system in advanced life; the preservation of the health during the same epoch—an excellent chapter;—the medical treatment of advanced life in general—also highly instructive,—climacteric disease, senile marasmus, and the diseases most fatal to persons in advanced life. Then we have chapter VII. devoted to diseases of the respiratory system, and subdivided into seven sections, each treating of one of the usual forms of respiratory disease. Next comes chapter VIII. also subdivided into sections, and treating of the different diseases of the nervous system, these being next in order of gravity and frequency. This is followed by chapter IX., in sections, on the disorders of the digestive tube and its appendages; X., on diseases of the heart; XI., in five very interesting sections, on diseases of the urinary and generative systems; XII., on diseases of the skin, including ulcers of the legs and senile gangrene, in separate sec-

tions; and XIII., and the last, on gout and rheumatism. These chapters on the subject proper, are succeeded by an appendix intended to advance the claims to renewed popularity of an old and certainly very respectable remedial measure, rather magniloquently styled the "*thermic treatment*" of lumbago, sciatica, partial paralysis, and other analogous disorders.

This "thermic" method, in which our readers will doubtless recognize the old-fashioned *ironing* or *firing* of stiff-neck memory, has recently been revived into notoriety by Dr. Corrigan of Dublin, and still more developed and improved in application as a potent therapeutic instrument, by Dr. Day. The doctor takes occasion, in his appendix here alluded to, earnestly to advocate its merits, and to justify his commendation by giving the reports of several well marked cases in its favour.

Having thus arrived at the termination of our author's volume, which by, the by, is furnished with a copious index, we bid him God-speed, entirely agreeing with him in the belief expressed in his introduction, that no apology was needed for the appearance of the work, and that though the subject is one of the highest importance, yet it "has been strangely overlooked during the last half century by the physicians of all countries."

Let us hope that, excellent as it appears to be, it will prove but the pioneer to other more extensive enterprises in the same ample and yet comparatively untilled field. To Dr. Day especially, and above all others at the present time, shall we look for the further efficient prosecution of the work. We turn to him advisedly, because, however thankful for what he has already given to us, we cannot help regretting that he had not allowed himself more room throughout his book; and, particularly, that in certain passages he should have contented himself with a tantalizing reference to his other works instead of quoting them at once in full. In the Philadelphia reprint, which is otherwise good enough, this defect is rendered still more embarrassing by the publisher's omission to have the paging of the reference notes so altered, as to make them correspond with the American editions of the works referred to. Where such authorities are within the reach of the student in this country, the different paging has rendered the references in a great degree without avail to him. It is not our business to interfere with the question of international appropriation in matters of pub-

ishing, but we *will* complain, if, when our literary barks change hands and seas, their smaller colours are not equally changed to match them with each other in their pristine uniformity.

Notes on the Medical Application of Electricity. By William F. Channing, M. D. 12mo. pp. 199. Boston, 1849.

The application of electricity in the cure of disease, has, at various times, claimed a large share of the physician's attention. Like many of the more valuable articles of the materia medica, it has often accomplished excellent results, but failing to do all that enthusiasm demanded, it has from time to time been nearly lost sight of as a therapeutic agent, Latterly, indeed, it seemed to have been resigned pretty much into the hands of empirics, but recently it has been again brought into notice in the course of regular practice, under favourable auspices.

"The object of this work," the author remarks, "is to present, in a reliable form, the results of experience in this revival of electro-medical application, to arrive at general principles, as far as these can be correctly deduced, and to place the materials of practice or investigation in the hands of all who look with hope to the development of this principle, now receiving so general attention abroad, which is so fertile in its applications, so immediate and so safe in its operation."

The subject is treated under various heads, as : *Physiological relations of electricity, forms of medical electricity, means of application, general application to disease, and special application to disease.* It is in reference to the means of application of electricity, and its special application to disease, that the present publication will be found particularly useful. For this purpose, it may be regarded as a convenient manual, in which the practitioner will learn what is known of the utility of the agent in the treatment of particular diseases, and the form of apparatus and best modes of application in the various cases for which it may be employed.

Anæsthesia, or the employment of Chloroform and Ether in Surgery, Midwifery, &c. By J. Y. Simpson, M. D., F.R.S.E., Professor of Midwifery in the University of Edinburgh, Physician-Accoucheur to the Queen in Scotland, etc., etc. Lindsay & Blakiston, Philadelphia.

The above work consists of a number of interesting essays on the use of anæsthetic agents, published at different times by the distinguished Professor of Midwifery in the University of Edinburgh. The experience of Dr. Simpson in the use of chloroform and ether, is such, as to command the greatest respect for his opinions in regard to their mode of action, utility, &c. Without concurring entirely with him on these points, we would recommend those wishing to acquaint themselves with the arguments in favour of anæsthesia, to peruse the several communications of the Edinburgh Professor, contained in the above volume. The work is well printed by the publishers, Messrs. Lindsay & Blakiston, of this city.

A Dictionary of Dental Science, Biography, Bibliography, and Medical Terminology. By Chapin A. Harris, M. D., D. D. S., Professor of the Principles and Practice of Dental Surgery in the Baltimore College, Author of Principles and Practice ot Dental Surgery, &c., &c. Philadelphia. Lindsay & Blakiston. 1849. pp. 780.

The work before us fills a void that has long existed to those engaged in the practice of dental surgery, and the task could not have devolved upon one better calculated to perform it than upon the author of the imposing volume whose title heads this notice This branch of surgery is extending so rapidly, and rising to such importance in the community, that a cyclopædia embracing satisfactory definitions of its technicalities, and a compendium of necessary, important, and curious collateral information, seemed indispensable. The large and valuable medical and surgical dictionaries of the present day, although invaluable to the student and practitioner of general medical science, contain little that is useful to the practical dentist. To supply this want, therefore, the work before us was undertaken. In it are contained accurate, though necessarily condensed, accounts of the physiological and

various pathological conditions of the teeth, and the operations necessary for their curé, together with full descriptions of the instruments and materials needed in them. Interspersed with these are biographical notices of eminent dentists, (written with a truthfulness that we can vouch for in several instances,) and bibliographical notices of their works. Medical, Surgical and Anatomical Terminologies are also introduced through the volume, thereby greatly increasing its value. In fact, the work is an enduring monument to the patience and industry of its author, and one that we should consider indispensable to the practitioner of dental surgery, and would gladly see in the library of every physician and surgeon.

THE MEDICAL EXAMINER.

PHILADELPHIA, MAY, 1849.

Editors of the Medical Examiner.

Will you spare me a corner in your valuable Journal, to make known the final settlement, recently, of a case involving the legal rights of physicians to charge for professional services rendered the Commonwealth as witnesses in criminal cases? The establishment of this claim is a matter of interest and importance to the profession. About nine years since, Dr. J. M. Wallace and myself examined, at the instance of the Coroner, the body of a child who had died, as was alleged, from the effects of poison administered by a servant in the family. The chemical analysis of the contents of the primæ viæ was conducted at the expense of much time, labour, and material, by Dr. R. E. Rogers, then living in Philadelphia, and upon the trial we were all examined as medical witnesses, to prove the existence of the poison. Proper bills for the service, exclusive of ordinary witness-money, were rendered at the time to the prosecuting officer of the Court, and by him endorsed to the County Commissioners for settlement. Payment, however, was refused, not from any indisposition, it was said, to compensate us for the services, but simply from a supposed want of proper

legal authority to do so. The claim, consequently, was pushed no further until a late decision of the Supreme Court, in a similar case, had settled the point, that professional service rendered at the instance of a proper legal officer, was entitled to special compensation by the County. In conformity with this decision, an appropriation was lately made for the settlement of our bills.

Hitherto, medical men have been subjected to much labour and vexation in medico-legal cases, without receiving any pecuniary compensation, the legal tribunals, like the public generally, expecting that physicians would of course always be willing in such cases to render their professional services gratuitously.

For the future, however, it should be understood that the law *must pay* when it needs a medical opinion in order to promote the ends of justice, and every one will see at once the indispensable necessity of such testimony in trials for murder charged to have been committed by means of poison. It is high time, we conceive, that the profession had taken a firm stand in defence of its just claims to remuneration, not only by courts of justice, but in other quarters also, where its charities are so liberally appealed to, more especially, too, as its members are liable to be mulcted in heavy damages upon charges of neglect merely; and we trust, therefore, that a *reform* in this, as well as in other matters, will not be indefinitely postponed.

Yours, &c.,

FRANCIS WEST.

Philada., April 6, 1849.

[We endorse the above with all our hearts, more especially as we too have been sufferers in circumstances nearly similar. It is indeed high time that the medical profession were looking after their own interests in these matters, and in every instance where professional opinions and valuable time are demanded for the purpose of justice, that they should insist upon proper remuneration for their services. Medical witnesses are not only called upon to render time and learning to further the ends of justice, but are obliged often to submit to the impertinent badgering and cross-examinations of counsel, very frequently more for their own amusement and the display of their little smattering of medical knowledge, than for any positive advantage that may accrue to the case under trial. We hope, therefore, now that the precedent is established, that no medical witness will fail to claim and sue for proper remuneration for services rendered.—EDS.]

EDITORIAL CHANGES.

Drs. Drake and Colescott have retired from the editorial department of the Western Journal of Medicine and Surgery. It is now in the hands of Prof. Yandell, assisted by Dr. P. S. Bell, a former associate.

PROFESSORIAL CHANGES.

Dr. Drake has retired from the University of Louisville, in consequence of his removal to Cincinnati.

Drs. Bartlett and T. D. Mitchell have resigned their professorships in Transylvania University. Dr. H. M. Bullitt, of Louisville, has accepted the chair of Materia Medica vacated by the resignation of the latter gentleman.

Dr. Donné has retired from the chair of Anatomy in Memphis Medical College.

The Chair of Physiology, Pathology, and Pathological Anatomy in the University of Louisiana, made vacant by the death of Dr. Harrison, has been filled by the selection of Dr. Thomas Hunt, of New Orleans.

We also learn through the Boston Medical and Surgical Journal, that Geo. Hayward, M. D., has resigned the professorship of Surgery in Harvard University.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

[Through the kindness of Dr. Patterson, Recording Secretary of the Society, we have been favoured with a copy of the minutes of the first annual meeting, from which the following abstract was made.—Eds.]

The Society held its annual meeting at Reading, April 11th, 1849. Delegates were present from Philadelphia, Lancaster, Berks, Alleghany, Bucks, Chester, Montgomery, Lycoming and Schuylkill counties, in all thirty-six, including the associate members not re-appointed to this meeting. Dr. Samuel Humes, of Lancaster, presided, by whom an eloquent address was delivered at the opening of the session, in which he paid a merited tribute of praise to Dr. Edwards, M. C., for his labours in behalf of the profession. The address was ordered to be printed.

Among the resolutions offered at this meeting was the following:

"*Resolved*, That any charge which may be made against any member of this body, affecting his character as a regular practitioner of medicine, be referred to a committee of five members, with instructions to report thereon before the final adjournment of the Society."

Under this resolution, charges of irregularity in practice were pre-

ferred against a member of the Society, and a committee appointed to examine into them, who reported in substance, as follows: That they had held a conference with the suspected member, by whom they were assured "that he had no affinity with the homœopathists; that he has no belief in the truth of their notions; that he wishes to do nothing to promote the success of that class of irregular practitioners; that, although he has used medicines such as those employed by homœopathists, they were not used by him upon homœopathic principles; and that, though he has been in one instance present with a homœopathic practitioner, he has in no case held a consultation with them." Under these circumstances, the committee did not consider the charge substantiated. The report of the committee was accepted.

The following amendment to the Constitution, Art. 6, Sec. 1, was offered by Dr. Atlee:

"*Provided also*, That the members of the profession in the city and county of Philadelphia, may, if they deem it expedient, form three Societies within their limits, of which the College of Physicians, now existing, shall be one."

On motion of Dr. Worthington, the following amendment was added:

"*And provided also*, That in appointing their representation to the State Society, no person belonging to two or more Societies shall be counted in more than one." The amendment being accepted, the whole motion was carried.

A committee, consisting of Drs. Kittoe, Norris, and Patterson, was appointed to draft an address to the profession throughout the State, calling their attention to the importance of the State Society.

An abstract from the minutes of the Chester County Medical Society was read, instructing their delegates to urge upon the State Society the propriety of making some provision for the members of the profession and their families, when from sickness or accident they may be disqualified from attending to their professional duties. In relation to which Dr. Wood offered the following resolution:

Resolved, That a Medical Beneficial Fund be established by voluntary contribution, that the treasurer of this Society act as treasurer of said Fund, and that he invest the sum contributed to this fund, and the interest thereon, so often as it amounts to $100, in State or City loan.

On motion of Dr. Atlee, a committee of five was appointed to consider the above resolution, together with the subject of mutual assurance among physicians, with instruction to report at the next meeting.

Several resolutions in relation to the adoption of a plan of universal

vaccination throughout the State; the appointment of a committee to collect information in relation to the late epidemic of small pox throughout the State; and the adoption by the Legislature of a law to secure the registration of births, marriages and deaths, were adopted by the Society, and committees appointed on each.

The whole proceedings evince great interest and enthusiasm on the part of the members, and manifest a healthy condition of the profession throughout the State.

The following officers were appointed for the next annual meeting to be held in Philadelphia on the third Wednesday of April, 1850.

President, Prof. Samuel Jackson, Philadelphia; *Vice Presidents*, Drs. E. D. Kittoe, Lycoming, W. Worthington, Chester, C. H. Matthews, Bucks County, Geo. Halberstadt, Schuylkill County; *Corresponding Secretary*, Dr. Isaac Hays, Philadelphia; *Recording Secretaries*, Dr. H. S. Patterson, Philadelphia, and Dr. George B. Kerfoot, Lancaster; *Treasurer*, Dr. George Fox, Philadelphia; *Censors*, 1st and 2d Districts, Drs. F. A. Muhlenberg, Lancaster, G. W. Norris, Philadelphia, W. Worthington, Chester, J. S. Carpenter, Schuylkill, H. Corson, Montgomery; 3d and 4th Districts, Drs. T. Wood, Lycoming, —— Rankin, Lycoming, A. Davidson, Lycoming, W. McIlvaine, York, T. S. Haller, York; 5th and 6th Districts, Drs. J. P. Gazzam, W. Addison, G. D. Bruce, J. Brooks, R. M. Mowry, Alleghany.

The following gentlemen were appointed delegates to the American Medical Association at the annual meeting in May next: Drs. S. Humes, S. Duffield, T. Wood, J. S. Carpenter, F. S. Burrowes.

NATIONAL CONVENTION FOR REVISING THE PHARMACOPŒIA OF THE UNITED STATES.

The Convention for revising the Pharmacopœia, which met in Washington, in January, 1840, adopted the following resolutions:

"1. The President of this Convention shall, on the first day of May, 1849, issue a notice requesting the several *incorporated State Medical Societies*, the *incorporated Medical Colleges*, the *incorporated Colleges of Physicians and Surgeons*, and the *incorporated Colleges of Pharmacy*, throughout the United States, to elect a number of delegates, not exceeding three, to attend a general Convention to be held at Washington on the first Monday in May, 1850.

"2. The several incorporated bodies, thus addressed, shall also be requested by the President to submit the Pharmacopœia to a careful revision, and to transmit the result of their labours, through their delegates, or through any other channel, to the next Convention.

"3. The several medical and pharmaceutical bodies shall be further

requested to transmit to the President of this Convention the names and residences of their respective delegates as soon as they shall have been appointed, a list of whom shall be published, under his authority, for the information of the medical public, in the newspapers and medical journals, in the month of March, 1850.

"4. In the event of the death, resignation, or inability to act of the President of the Convention, these duties shall devolve on the Vice President; and, should the Vice President also be prevented from serving, upon the Secretary, or the Assistant Secretary, the latter acting in the event of the inability of the former."

In compliance with the foregoing resolutions, the undersigned, having been informed by the President of the late Convention, Dr. Lewis Condiet, that he would be unable, from indisposition, to perform the duties assigned to him, gives notice to the several Medical and Pharmaceutical bodies enumerated in the first resolution, that a Convention for the revision of the National Pharmacopœia, will meet in the city of Washington, on the first Monday in May, 1850. The undersigned also requests of the several bodies referred to, that they will fulfil the wishes of the Convention, as set forth in the second resolution; and, further, that they will transmit to his address, on or before the first of March next, the names and residences of the delegates whom they may appoint, in order that a list of them may be published, as directed in the third resolution.

GEO. B. WOOD, M.D.
Vice President of the Convention of 1840.

Philadelphia, May 1st, 1849.

RECORD OF MEDICAL SCIENCE.

ANATOMY AND PHYSIOLOGY.

On the Mechanism by which the Valves of the Heart are closed, and by which the Sounds of the Heart are produced. By Dr. Joseph Hamernik of Prague.—In this paper the author recapitulates at some length the opinions of Dr. Baumgarten on the mechanism by which the valves are closed, which he considers of much importance, and with which he professes his concurrence.

The most important points in Dr. Baumgarten's views, are, that during the systole of the auricles, there is either no regurgitation, or of a very trifling amount, from the auricles into the great venous trunks. This, he conceives, is prevented by a circular arrangement of muscular fibres, observed by anatomists to surround the orifices of the veins; by the blood being impelled in the direction of the auriculo-ventricular orifice, in consequence of the greater portion of the muscular fibres of the auricle being inserted into the tendinous border of these openings; and by the *vis a tergo* of the blood; and in the right side, by the valve at the mouth of the vena cava. This latter, however, Dr. Hamernik considers to be inoperative in the adult, and only useful in the

fœtus. He attaches great importance to the force of the current of blood flowing in the venous trunks, due to the alternate pressure exercised by the respiratory movements, reflux being prevented during expiration by the valves in the veins at the base of the neck; and in the vena cava inferior, he attributes a valvular action to the displacement of the liver during expiration, which diminishes the calibre of the vein at its passage through the diaphragm. Dr. Baumgarten considers the pulsatory movements observed in the healthy state of parts in the great veins, to depend on the sudden interruption of the current of blood during the auricular systole.

That the auriculo-ventricular valves are closed by the counter pressure of the ventricular blood, suddenly developed by the contraction of the *auricles*. That the cavities of the auricles and ventricles, during the heart's diastole, are distended by the continuous current from the veins; while at this period the valves are to be found floating in the blood in the form of a funnel. That the object of the auricular systole is to induce such an amount of tension in the contents of the ventricles, and of course in the blood surrounding the funnel-shaped arrangement of the valves, as to cause their rapid closure; and that in this way only can regurgitation be prevented. If the heart be removed from the body, and the auricles cut away (it is better, however, to operate with one only,) the artery obstructed by ligature, or by filling it with wax, and the cavity of the ventricle filled with a saline solution, the valve is found lying in the position above described. If then a stream of water be directed upon the valve from the height of a foot, so as to imitate the sudden contraction of the auricle, the valve is seen to close with great rapidity. If, however, an attempt be made to imitate the ventricular systole, by squeezing the ventricle with the hand, a large portion of its contents regurgitates before closure is effected.

That the closure is not due to the operation of the musculi papillaires, but that it is much facilitated by the small specific gravity of the valves, which enables them to float on the surface of the blood.

Dr. Hamernik then proceeds to make some remarks, which he considers in part deducible from the preceding.

1. It is possible that there may occur one or more systoles of the ventricles, unpreceded by any auricular action, forming what is called the "rythmus intercurrens" of the heart's action. In chronic asthma and pneumonia, the blood, powerfully propelled by the expiratory movements, may distend the auricles to such an extent, that they are unable to contract on their contents. In which circumstances, two or more systoles of the ventricles are required before the auricles can unload themselves.

2. The division by the older anatomists of the ventricles into portio auricularis and portio arteriosa, is physiologically and pathologically significant. In the former, there is a current of blood until the closing of the auriculo-ventricular valves, continuous with that of the veins. In the latter, a current is established by the ventricular systole, continuous with that of the arteries. Where there is no motion of fluid, there can be no murmur; consequently simple roughness of the mitral valve by

exudation, or otherwise, will not give rise to a murmur with the first sound unless the valve be also insufficient.

3. The mechanism by which the valves of the arteries are closed, is similar to that of the auriculo-ventricular valves. Immediately on the contraction of the ventricles, the pressure of the blood attained in the large arterial trunks, acting equally in all directions, effects the closure of the semilunar valves. Their complete closure occurs contemporaneously with the end of the ventricular systole. When the ventricular diastole begins, the arterial retraction commences, and the wave of reflux from the large arteries, falls upon the valves already closed, and thus is produced the clear second sound. There is no regurgitation, which would necessarily be the case to a certain extent were the valves shut only by the returning wave of blood.

4. The first sound of the heart is occasioned hy the vibration of the tense auriculo-ventricular valves, acted on by the blood propelled against them during the systole of the ventricles, and the vibration of the chordæ tendineæ. In like manner, the second sound is produced by the impulse of the blood on the semi-lunar valves already shut, and not by their closure.

5. A double or even a treble sound is sometimes heard over the ventricles, which has been ascribed to various causes, but is probably due to a double vibration of the tense auriculo-ventricular valves—just as a sail struck by the wind may emit several sounds. The same explanation is given when the phenomenon occurs with the second sound.

In contraction of the mitral orifice, there is occasionally heard a peculiar sound termed *cliquetis métallique,* or "audible heart impulse," and of which different explanations have been offered. According to the author's experience, all true heart sounds are heard by mediate or immediate auscultation only. This sound, however, is heard at a distance from the chest, and is hence presumed by him to depend on the motion imparted by the heart's systole to the surrounding elastic tissues.

6. Morbid conditions of the muscular structure of the heart, can have no effect in preventing closure of the valves.

7. As the small specific gravity of the valves is assumed to facilitate their closure, any thing which can render them specifically heavier, as fibrinous deposits, in the case of debilitated individuals whose blood is of low specific gravity, may be conjectured to interfere with their action. It is in such cases that the re-establishment of an improved condition of the blood removes the murmur, as in typhus fever, severe pneumonia, &c. On similar principles, the author adds, the bruits observed in chlorotic patients may perhaps be explained.—*Prager Viertel-jahrschrift.*

[We witnessed the experiments referred to in this paper, when performed by Dr. Hamernik, and have much pleasure in testifying to their accuracy. The experiment, by which it is shown that the auriculo-ventricular valve is closed before, and independently of the ventricular systole, is very easy of performance.

The valves, when cut out of the heart, are found to float readily on

the surface of blood; and probably their specific lightness plays a part in the mechanism of their closure, at least in the human subject; at the same time, that it is far from being essential is indicated in prone animals, and in the case of a man standing on his head. The seat of chlorotic murmurs prevents our attributing them to the cause hinted at by the author.]—*London Monthly Journal.*

PATHOLOGY AND PRACTICE OF MEDICINE.

On the presence of Albumen in the Urine. By Dr. Finger.—Since it has been determined by repeated observations that the presence of albumen in the urine occurs in other cases than in those of Bright's disease of the kidney, other signs have been advanced as peculiar to, and characteristic of, this disease— *e. g.* the diminution of urea in the urine, the occurrence of fibrinous casts of the urinary tabules in this fluid, the presence of urea and of uric acid in the blood and dropsical fluids. But none of these circumstances can be regarded as peculiar to Bright's disease alone. In the course of his inquiries into the subject of morbus Brightii, Dr. Finger examined the urine of about 600 patients, and frequently found albumen in it. Of 186 cases of tubercular disease, the urine contained albumen in 46, while in only 2 of this number was there evidence of Bright's disease. Of 88 cases of typhus, the urine was albuminous in 29, becoming so on the average from the sixteenth to the twenty-fifth day of the disease; in those of the 29 that recovered, the albumen disappeared from the urine as they became convalescent. 17 of the 29 died; the kidneys were in all perfectly healthy. Of 46 cases of puerperal fever, the urine contained albumen in 32; in 6 of these which died, and in which the urine had continued albuminous after the cessation of the lochial discharge, dissection shewed purulent peritonitis, the kidneys being healthy. Of 14 cases of carcinoma, the urine was albuminous in 6; examination after death discovered carcinomatous ulceration of the stomach in 3 of these, and of the uterus in the other 3; the albumen in the urine in the latter cases might have been due to this fluid being mixed with the discharge from the ulcerating surfaces. Of 33 cases of pneumonia, the urine contained albumen in 15; of these 6 died, and the kidneys in all were found healthy. Of 65 cases of intestinal catarrh, albumen was found in the urine of 8, 3 of whom died.

Dr. Finger believes that in the above cases, the albumen in the urine is not simply separated as such, but is probably a constituent of inflammation, lymph, or of pus, which has been formed in some part of the body, and brought by the circulation to the kidneys, whence it finds its way into the urine; for in many of the cases the formation of pus in some part was attended by the simultaneous appearance of albumen in the urine. In addition to the previously mentioned cases, Dr. F. found albumen in 2 out of 6 cases of chlorosis, in 2 out of 16 cases of acute rheumatism, in 1 out of 10 of intermittent, in 2 out of 14 of pleurisy, in 2 out of 6 of peritonitis, in 3 out of 16 of chronic bronchitis, and in 7 out of 18 of disease of the heart. A remarkable circumstance was ob-

served in regard to the urine of two epileptics. One of the patients was a labourer, aged 32, who had been epileptic for years, but was otherwise in good health; in him, after each attack of epilepsy, a large quantity of albumen appeared in the urine, then gradually diminished, and in about 36 hours quite disappeared, until the next attack, when it again occurred in large quantity. The same phenomenon was observed in the other epileptic, a young girl 12 years of age, who was otherwise in good health.—*Ibid, from Osterreichische Medicinische Wochenschrift.*

OBSTETRICS.

Puerperal Insanity. By Dr. Webster.—In a valuable communication to the Westminster Medical Society, on the subject of puerperal insanity, Dr. Webster entered at considerable length into the statistics of the disease. To illustrate its frequency as compared with that of other forms of mental derangement, he stated, that in 1091 curable female patients recently attacked by insanity, and admitted into Bethlehem Hospital, during the last six years, 131, or one-eighth of the whole, were puerperal cases; thus showing that the malady is not so unfrequent as many may perhaps believe. Again as to the curability of this form of mania, more recoveries were reported than in the other varieties of lunacy; 81 puerperal patients having been cured, or at the rate of 61.83 per cent.; whereas the average recoveries during the last twenty years, in all cases of insane females treated at this institution, was 53.67 per hundred. Hence, three in every five cases of puerperal insanity may be confidently expected to get well within a year. In regard to hereditary tendency to mental disease, 51 of the 131 patients were so predisposed, or 30 per cent.; whilst 41 were suicidal, being at the rate of 31 in every 100. Both these peculiarities are of much importance in this malady, and materially influence the disease, its progress, and result. The total deaths in the 133 puerperal patients amounted to six, or four and a half per cent., thus making the average rate of mortality nearly the same as in the other species of insanity, taken collectively. The particulars of the cases, and pathology, next occupied attention, and Dr. Webster stated, that three of the six patients who died were suicidal and hereditary; one was only hereditarily predisposed to insanity, but not suicidal; whilst two, it was reported, had neither of these peculiarities; and none ever were insane previously. In addition to these facts, Dr. Webster also mentioned, that half the deaths occurred in patients who were not affected longer than fifteen days, the shortest period being eleven days, and all were attacked by insanity within seventeen days after their confinement. In none of the dissections were any morbid appearances observed in the abdomen, but the lungs always appeared to be diseased, and also the brain and membranes. The details of one autopsy were then described, as a specimen of the diseased changes of structure frequently met with in puerperal mania, the principal morbid

alterations being, turgidity of the blood-vessels of the brain and membrane; large, bloody points on cutting the cerebral substance; slight serous infiltration of the pia mater, and considerable effusion of fluid in the fifth ventricle; adhesion and purulent ulceration were noticed in the left lung, with hepatization in other portions of that organ, and in the right lung partial pneumonia in the congestive stage. Although this patient had been delivered only twenty-six days prior to her death, no corpus luteum could be discovered in either ovary, nor any diseased changes of structure in the abdomen. Notwithstanding it appeared rather a digression, the author, in his paper, remarked, that grangrene of the lungs, however rare an occurrence in persons carried off by bodily disease, but without any mental affection, sloughing of that organ was not unfrequent in lunatics. He said it was so in his own knowledge, and others had also made similar observations, especially in continental asylums for the insane. Dr. Webster afterwards alluded to the treatment of puerperal insanity; and considering cerebral irritation combined with great exhaustion on the nervous system generally, to constitute the true character of this disease, and that it rarely, if ever, proves inflammatory, he thought depletion, or the use of strong antiphlogistic remedies, became very seldom admissible. Leeches appeared in some cases advisable, but even then should be applied with great caution, and their effects carefully watched. As a general maxim, the author advised the same principles to be followed in the treatment of this malady as in delirium tremens, since the nature of the two diseases were somewhat analogous. Opium, camphor, ammonia, and aromatics, with some of the diffusible stimuli, proved excellent remedies, and ought to be chiefly relied upon. When opium fails to procure sleep, so beneficial in this, as, indeed, in every form of insanity—then conium, hyoscyamus, or Indian hemp, may be substituted. Mild purgatives, to open the bowels, and sometimes cathartics should be prescribed; but powerful drastic medicines are seldom advisable. Enemata also are useful, and sometimes with turpentine. When the disease assumes a more chronic form, setons or tissues may be made in the neck, &c. The shower-bath, from its strengthening influence, then acts beneficially, whilst tonic remedies, with more nutritious food, become necessary, and prove advantageous; indeed, low diet is very often prejudicial in insane patients, and it has been long remarked in many asylums, that improved nutriment, especially in lunatics, frequently becomes a powerful means for promoting recovery. In recent cases of puerperal insanity, when the circulation is accelerated, accompanied by evident congestation of the brain, leeches to the temples, and behind the ears, or blisters, might then be applied, and afterwards cooling lotions, with ice to the head; whilst tartar emetic, or ipecacuanha, in nauseating doses, and digitalis, may be administered for the same object. Besides medical treatment, moral means, with judicious occupation and amusements, proper for the patient, must not be overlooked, as these very often constitute aperitive adjuncts in the management of the insane.—*Lancet,* Dec. 2, 1848.